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August 21, 2009

*Via Electronic Delivery*

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

Attn: Nina Shafran, Mobility Division, Wireless Telecommunications Bureau

Re: ***WT Docket No. 09-44—Waiver Request of Stratophone and SkyTel***

Dear Ms. Dortch:

Enclosed for filing in the docket please find an original and four (4) copies of the following supplemental materials relating the Waiver Request of Stratophone, LLC and Sky Tel Spectrum, LLC, WT Docket No. 09-44, requesting waiver of certain licensing restrictions in Sections 22.815 and 22.817 of the FCC's rules:

1. Declaration of Albert Gencarella and separate Regulatory Analysis.
2. Maps showing AGRAS sites.
3. Other materials cited in the Declaration of Albert Gencarella.

Please contact me with any questions regarding this matter.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Doane F. Kiechel', written in a cursive style.

Doane F. Kiechel  
Counsel for Stratophone, LLC

Attachments

cc: Linda Chang  
Nina Shafran  
Elizabeth Sachs (counsel for SkyTel)

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Additional information in response to questions of  
Wireless Telecommunications Bureau related to  
Waiver Request of Stratophone, LLC and SkyTel Spectrum, LLC  
WT Docket No. 09-44

DECLARATION OF ALBERT GENCARELLA

I, Albert Gencarella, affirm that the following is correct to the best of my knowledge:

1. I am a co-founder and the Vice President of Stratophone, LLC, a domestic Air-Ground licensee under Part 22 of the FCC's rules for nine AGRAS sites serving the general aviation industry primarily in the Northeast and Mid-Atlantic regions. Stratophone has been in operation since 1999. In such capacity, I have developed substantial expertise in the provision of Air-Ground telecommunications services.
2. I am providing this declaration in response to a request for further information from the Wireless Telecommunications Bureau of the FCC regarding the Waiver Request of Stratophone, LLC and SkyTel Spectrum, LLC filed February 24, 2009, WT Docket No. 09-44.
3. The information provided in the first full paragraph on page 2 of the Waiver Request came from FAA statistics. Attached as Tables 1 and 2 to this Declaration are statistics published by the FAA showing the number of general aviation aircraft. Tab 1.1 shows the number of aircraft by type for 2007. Tab 1.2 shows the same data but from 1992 to 2007. Table 1.3 shows general aviation by primary use. The remaining Tables 1.4 to 1.8 show information on hours flown for 2007 and from 1996 to 2007. Please note a difference in the numbers from our original Waiver Request. In our Waiver Request we cited to 2007 numbers. The numbers actually shown pertain to 2006—my error. The 2007 numbers attached hereto are higher, demonstrating the continued growth in general aviation aircraft.
4. The next paragraph where we discussed aircraft growth comes from FAA statistics as shown on Table 2, a forecast published by the FAA. The totals show a small decline in total general aviation aircraft going forward. However, the categories we will target in our enhanced AGRAS business, namely Jets, Turbo Props and Rotorcraft, are increasing. The decline is in the smaller, single-engine, piston-type aircraft.
5. The first full paragraph on page 3 states that the general aviation transportation segment is underserved in telecommunications products, which I confirm is true. Of the 230,000 general aviation aircraft, only about 11,000 have telecommunications services, other than required aeronautical frequencies. I believe this condition exists because of high cost and poorer quality service. You also requested additional information on the service offerings of other providers available to general aviation passengers and the regulatory constraints faced by these other service providers. As you know, Sections 22.805 through 22.817 apply to general aviation, and Sections 22.853 through 22.882 apply to commercial aviation. I have attached the summary from the FCC's website on



the issuance of both commercial and general aviation licenses and Section 22.857 of the FCC's rules, which discusses the channel plan for commercial aviation air to ground systems. The important point is that AirCell and LiveTV, an affiliate of JetBlue, are not subject to the same licensing restrictions as an AGRAS provider but rather are governed by the commercial aviation rules, even though they can (and do) provide service to general aviation and government aircraft. In short, they compete with AGRAS providers, but because of the licensing advantages they enjoy there is not a level playing field. The commercial license is nationwide, as opposed to site-by-site licensing for AGRAS providers. Furthermore, the commercial licensees have 3 years to build out 25 sites and 5 years to build 50, as opposed to the 12 month build out requirement for AGRAS licensees.

6. The commercial licensees do not have as many restrictions on how to apply for and locate sites, nor as to the services that they can offer, allowing them to develop cost-efficient, modern networks for commercial aviation. As a result, they have already launched broadband services to commercial aviation aircraft. As stated above, these commercial licensees also can provide voice and data services to commercial and general aviation aircraft, and to a limited extent have begun to offer such services. LiveTV is now providing service on a limited basis to general aviation aircraft on the Airphone system, and Aircell is using Iridium to provide voice service and has announced the introduction of broadband services to general aviation aircraft.<sup>1</sup> Jet Blue announced its Kiteline service (which is to provide free limited messaging service on Jet Blue flights) over a year ago but to date has equipped only one plane.

7. Despite these initial efforts to provide some level of advanced service to general aviation, the commercial licensees historically have concentrated heavily on the much larger and more lucrative commercial aviation market, relegating general aviation passengers to obsolete or less than adequate service offerings. All indications are that the primary focus for the commercial licensees will continue to be commercial aviation. This underscores the importance of the grant of the requested waiver to allow Stratophone and SkyTel to develop an affordable, modern nationwide communications network for the growing general aviation market. The importance of the waiver goes beyond allowing the AGRAS licensees to compete on a level playing field but more immediately will insure the availability of up-to-date service to general aviation in the first place.

8. The second full paragraph on page 3 of the Waiver Request describes the current status of the AGRAS industry. The statements made in that paragraph are correct and based on my experience in the industry more than external resources that are readily cited. The only change is that the number of active AGRAS subscribers has now declined modestly from the 1,200 figure cited in the Waiver Request.

9. Our business plan is for Stratophone and SkyTel to contribute their licenses and operations to a newly formed entity to be jointly owned and controlled by Stratophone

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<sup>1</sup> My source of information for AirCell is their website. LiveTV's website did not include much information, but I called them and learned that they are currently operating the Airphone system as it was operated by Verizon and plan to announce new programs shortly.

and Skytel. The grant of the Waiver Request will be absolutely necessary for the two companies to combine their assets and construct the updated, digital nationwide AGRAS network. The piecemeal licensing approach required by the current rules would result in prohibitive costs and delays in building out a nationwide network and preclude our ability to obtain adequate financing for the project. Also, I should reiterate that the frequencies that we will be applying for will, in most cases, not be available to other applicants because of the frequency separation requirements.

10. If the Waiver Request is granted, our application strategy would be to apply for all available channels for approximately forty sites, which would give the combined Stratophone/SkyTel entity ubiquitous coverage throughout the United States. Our plan is to apply for all channels available at each site at the same time (rather than some subset). This approach will then enable us to utilize all of the channels at each site, allowing greater flexibility in channel allocation to provide reliable service under higher demand conditions. For example, if weather conditions slowed air traffic activity in the New York area causing congestion and unusually high telecommunications demand, we would have the ability to utilize all or most channels in New York while restricting those channels from use at adjacent sites. This would enable us to meet the peak demand and maintain a higher level of service to our subscribers. Further, we would like to be able to include all channels for each site on a single application, with a single application fee.<sup>2</sup>

11. We believe that we would be able to construct all of these sites within 24 months of license grant. We also plan to begin negotiations with other AGRAS licensees as soon as the waiver is granted in order to facilitate the integration of their channels into our new network from the outset. Based on our working relationships with these licensees, we feel confident that they will see the undeniable benefits of a modernized, nationwide network and will be interested in either teaming with the new combined entity on some basis or selling their licenses to us.

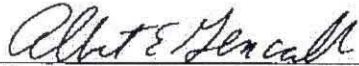
12. Our plan is to keep the analog channels active while we design and construct the digital system and then allow some additional time period to enable analog subscribers to transition to the digital system. We would make every effort to make their transition as painless as possible, and we plan to include equipment subsidies and a design that would enable them to "plug" the new equipment into existing cabling and antennas. This will require careful planning and additional channel management.

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<sup>2</sup> Our network would utilize a single digital transmitter at each site, so that a single, per-site fee would be appropriate and would be consistent with application processing fees for comparable systems. From what I understand about the origins of the per transmitter fee, it was adopted in Part 22 of the FCC's Rules where there was no history of pre-filing frequency coordination. (Contrast Part 90, where pre-filing frequency coordination was standard practice.) Thus, the FCC needed to run, or at least to review, an engineering analysis for each frequency (transmitter) to confirm that it would not cause harmful interference to other site-based licensees. Apparently, this per transmitter approach was the basis for the AGRAS license fee structure, although the only "engineering analysis" is a simple mileage calculation.



13. We have attached updated maps showing all sites and frequencies held by Stratophone/SkyTel and other existing licensees, including our recently filed application for sites in Alaska.



Albert Gencarella, Vice President  
Stratophone, LLC  
67 Green Meadow Blvd.  
Middletown, New Jersey 07748  
(631) 668-6775

Date: 6/15/09

Additional information in response to questions of  
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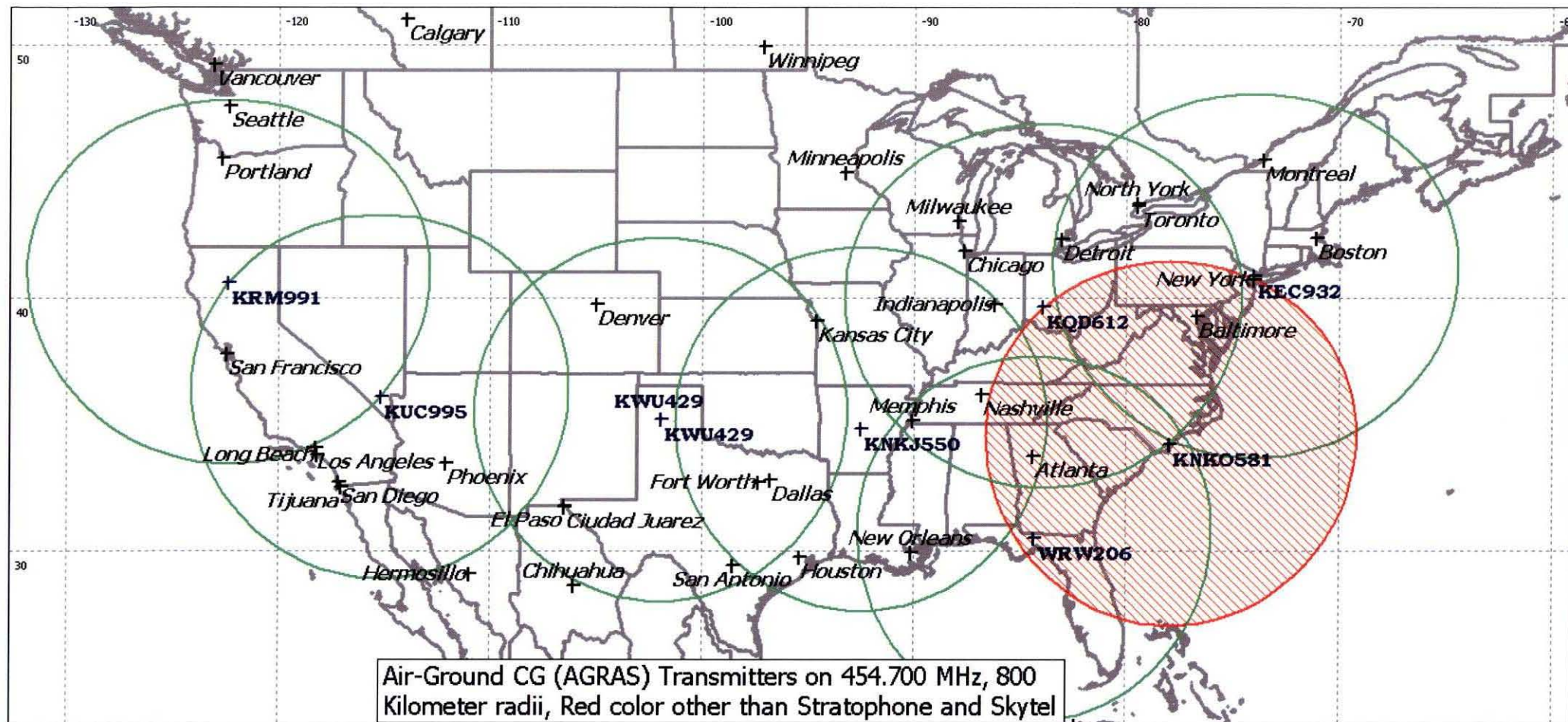
Regulatory Analysis

The FCC's regulatory frameworks have attempted to balance two important public interest considerations: the promotion of competition and the more efficient use of available spectrum. The initial rules governing many types of commercial wireless services included regulations that were intended to encourage multiple service providers in a marketplace. This was accomplished by restricting the number of frequencies assigned to each applicant. In some services, the FCC imposed loading requirements which limited the number of channels for which an entity could be licensed in a defined geographic area and permitted the assignment of additional spectrum only upon a demonstration that already authorized channels had satisfied the applicable loading standard. In the case of AGRAS, the FCC rules guard against spectrum warehousing by limiting entities to applying for a single channel at a time and requiring a demonstration that authorized channels have been placed into operation before an additional channel may be requested.

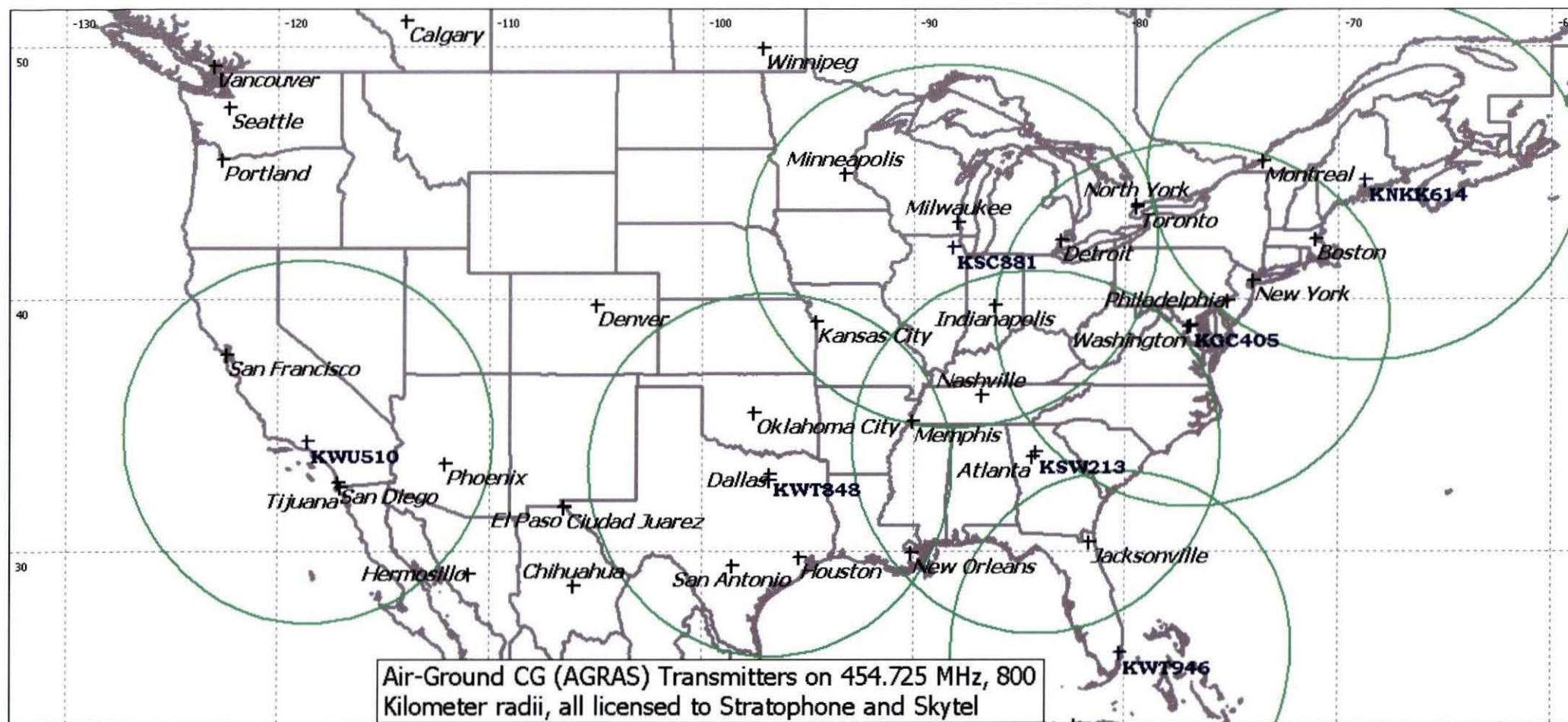
Over time, as wireless services have matured and after potential competition within them has had an opportunity to flourish, the importance of promoting enhanced spectrum efficiency and utilization often takes on a more primary importance. For example, the Commission effectively waived its 800 MHz Specialized Mobile Radio (SMR) loading requirements when it granted the waiver request of Fleet Call, Inc. in 1991 (6 FCC Rcd 1533). The FCC described Fleet Call's request as an "innovative proposal to increase spectrum efficiency through use of multiple, low-power SMR facilities." The SMR rules at that time included a per channel/per site loading obligation that the FCC concluded was satisfied based on its then novel interpretation that Fleet Call had "aggregate loading" of the required 70 units per channel in the market area, which the FCC determined "substantially complie[d]" with its requirement. By letter dated December 23, 1992 from Ralph A. Haller, Chief, Private Radio Bureau to David E. Weisman, the FCC extended this aggregate loading concept to all Fleet Call-like "wide-area" SMR systems, systems that the FCC concluded would "increase spectrum efficiency substantially through digital technology and frequency reuse in spectrum-depleted markets." (8 FCC Rcd 143) Further, the Commission waived the requirement that existing channels be constructed and loaded before additional frequencies could be requested when it granted wide-area applications from Hawaiian Wireless Partners (11 FCC Rcd 21192). In that Order, the FCC concluded that it would allow HWP to license additional SMR channels based on a showing that, because of the particular geographic characteristics of its request, "there is no other actual or potential SMR licensee that would be able to use these channels in the same or any adjacent area." Those decisions permitted the development of the ESMR network deployed by Nextel, now Sprint Nextel, which provided meaningful competition to the then duopoly cellular service and offered technologically advanced push-to-talk and wireless phone service to many millions of users.

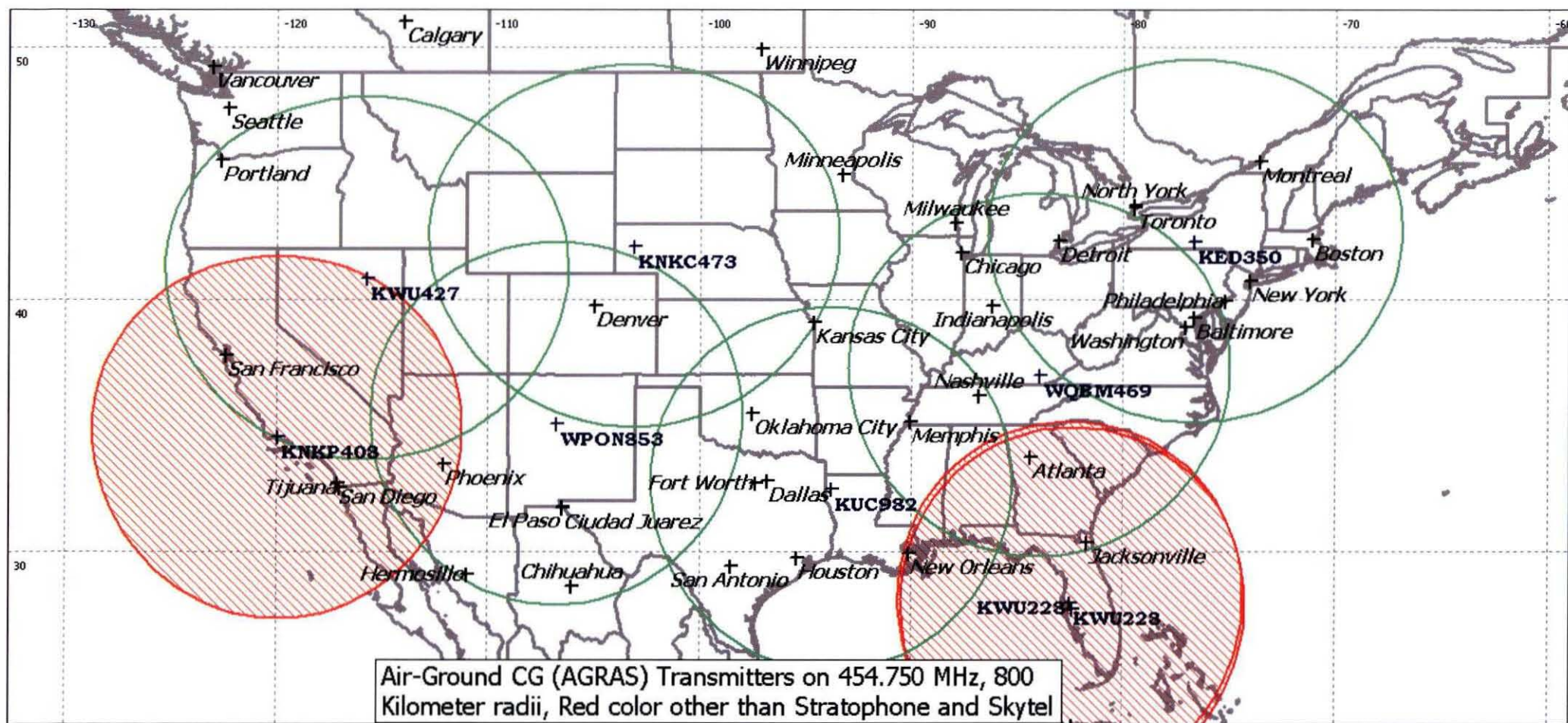


The AGRAS service was authorized more than 25 years ago. Its channel assignment rules, like most at that time, were designed to discourage spectrum warehousing and allow multiple entities to provide service in each area by permitting applicants to obtain only a single frequency at a time. Those rules, while limiting, were not unreasonable in light of the then available analog technology. But the AGRAS marketplace is now mature. Although many entities had the opportunity to apply for these frequencies, only Stratophone, LLC and SkyTel Spectrum, LLC provide AGRAS service throughout much of the nation and only these entities have demonstrated a commitment to invest in a more spectrally efficient, advanced technology system. Their waiver request for authority to license multiple frequencies at multiple locations, frequencies for which they already are licensed and which would not be available to other applicants because of the FCC's co-channel protection rules, mirrors the requests filed by Fleet Call and other SMR operators and has the same objective: the opportunity to develop a competitive, state-of-the-art network for users of this service.

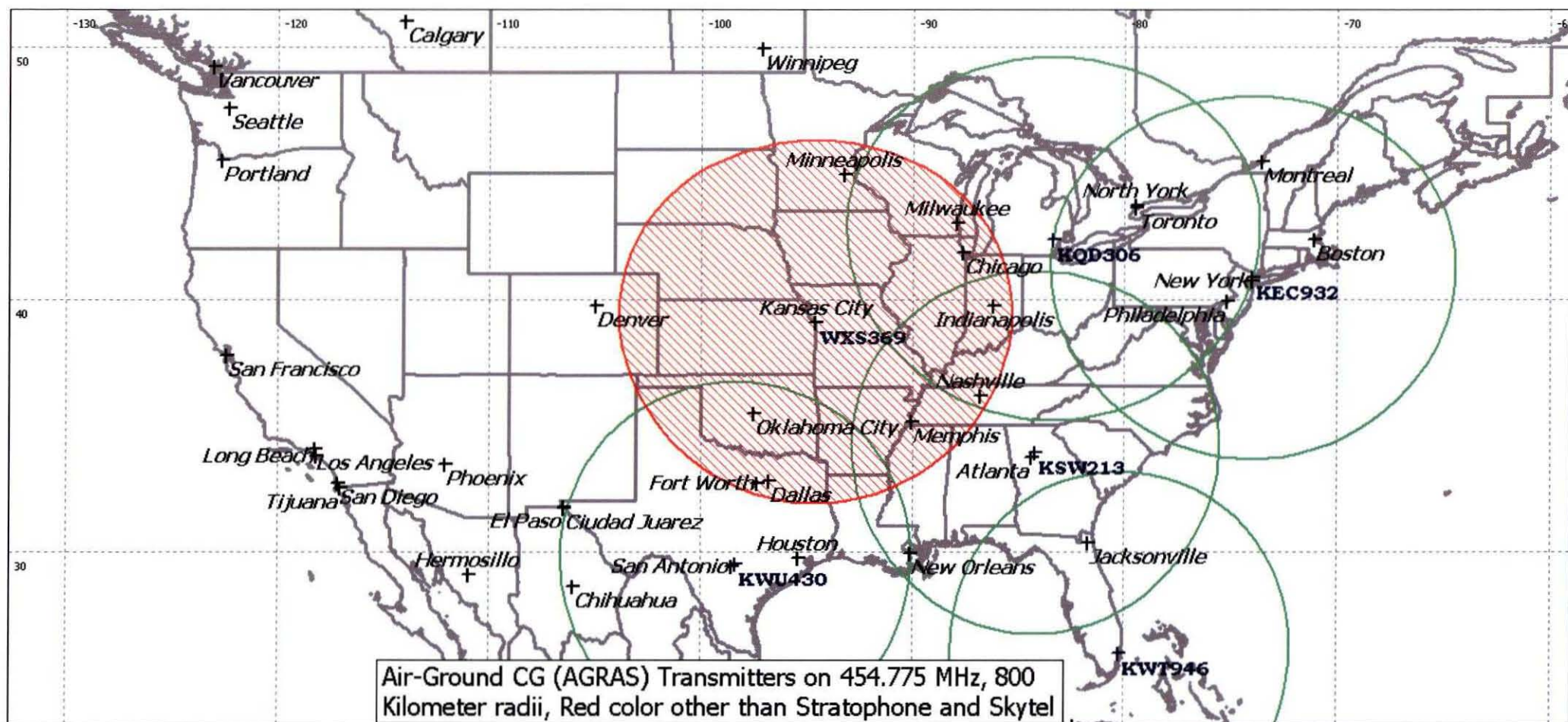


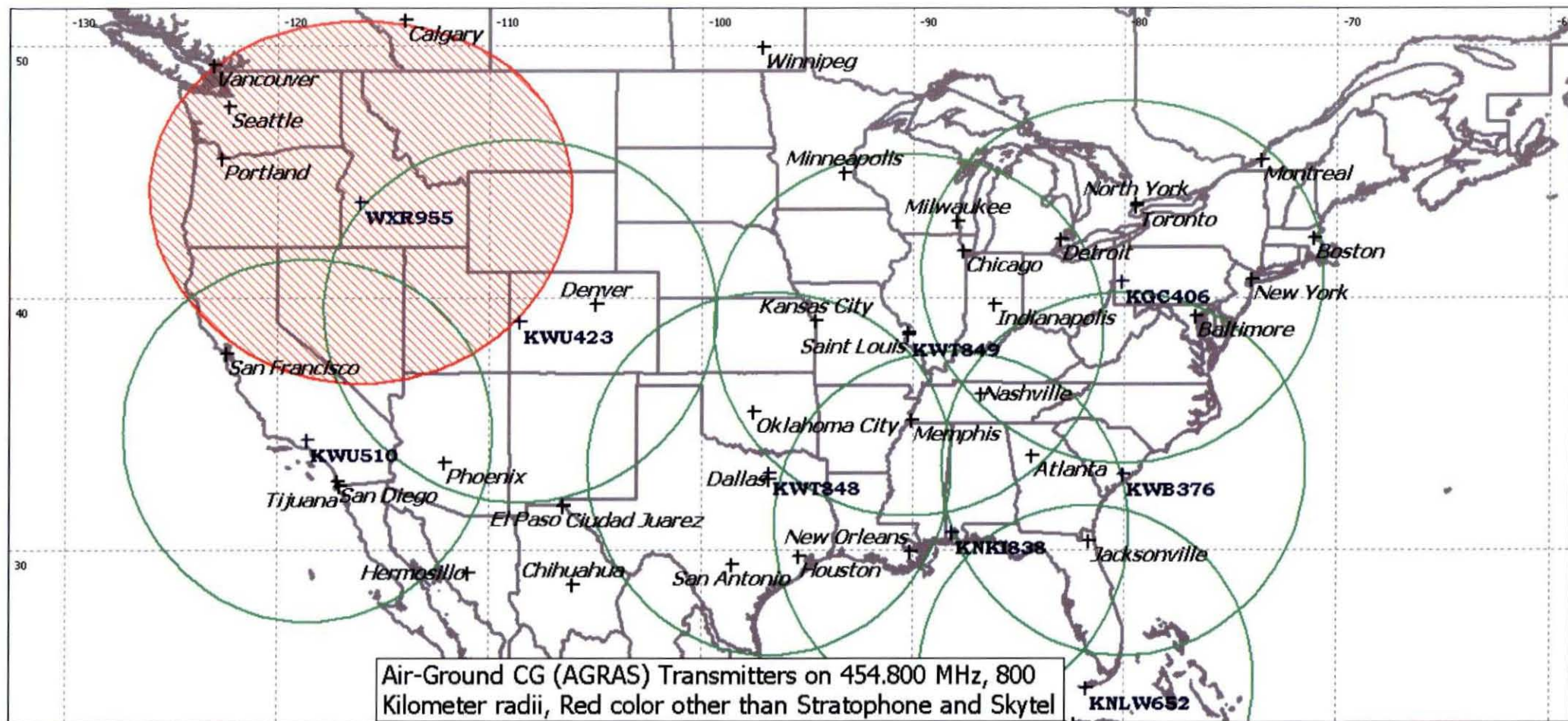




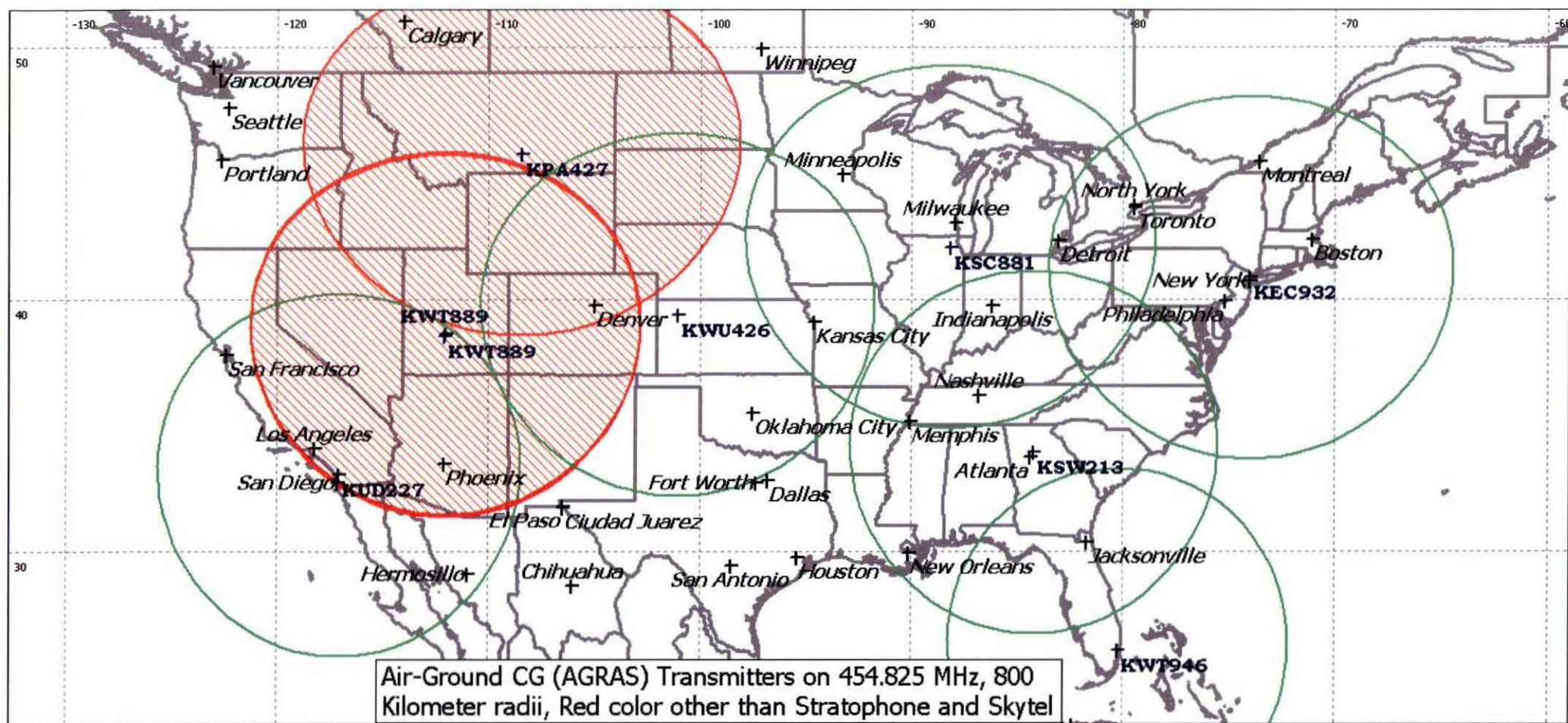


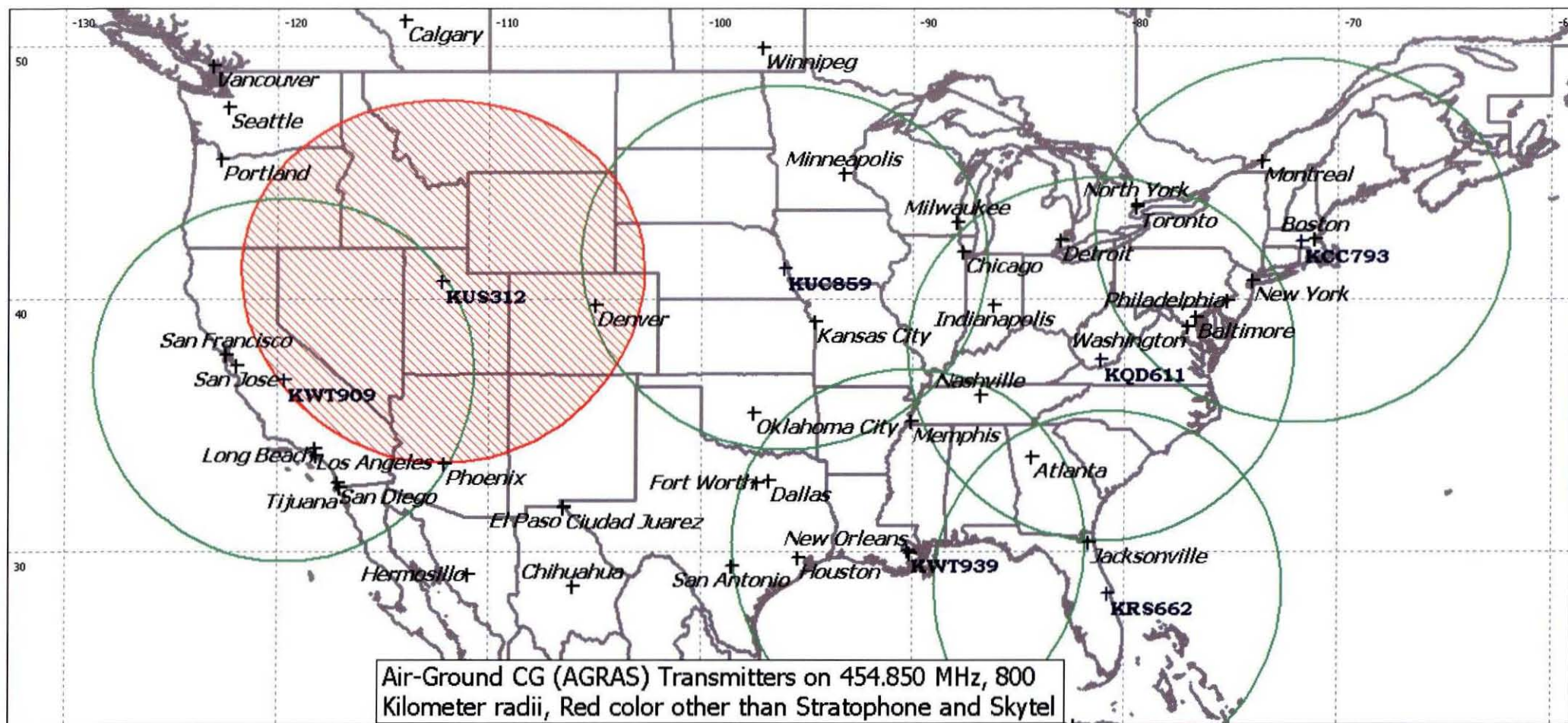




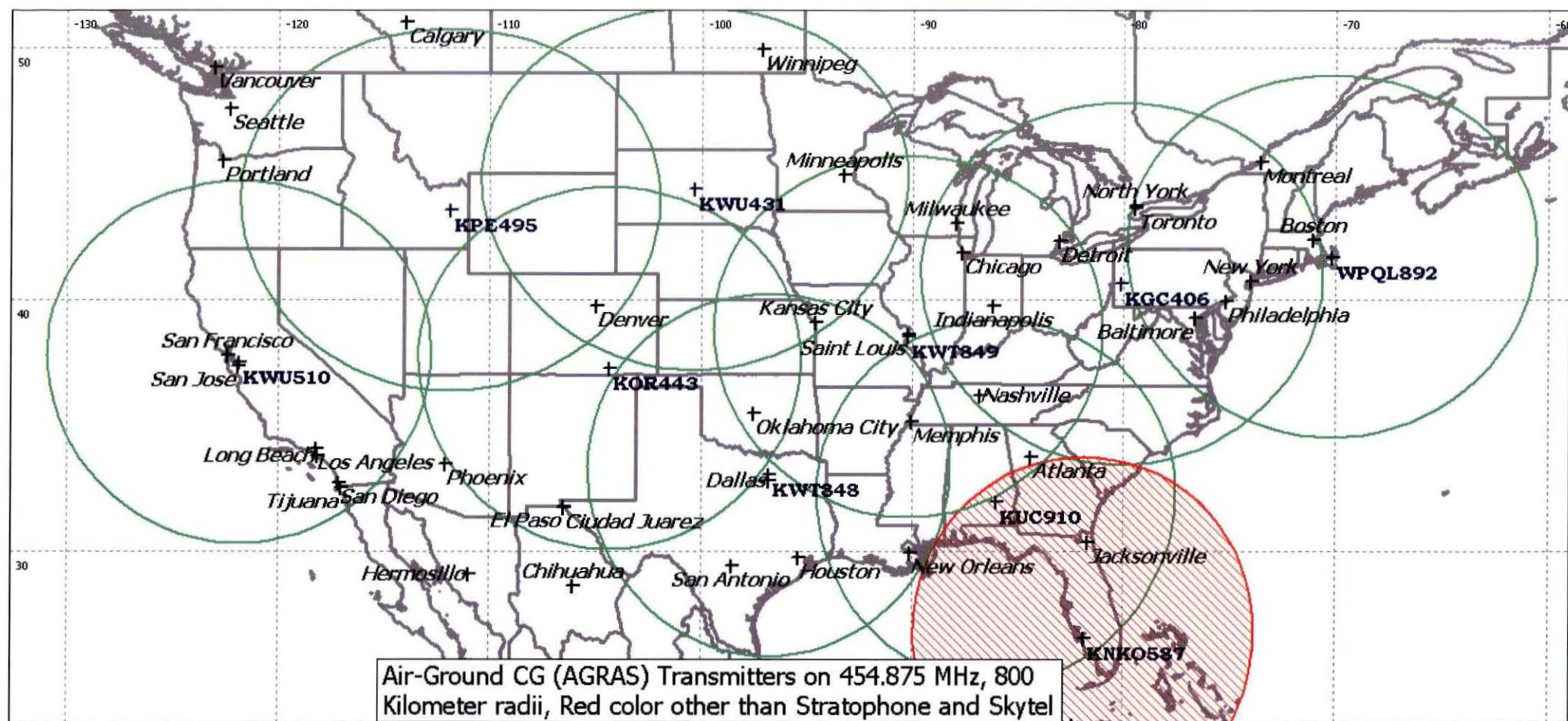


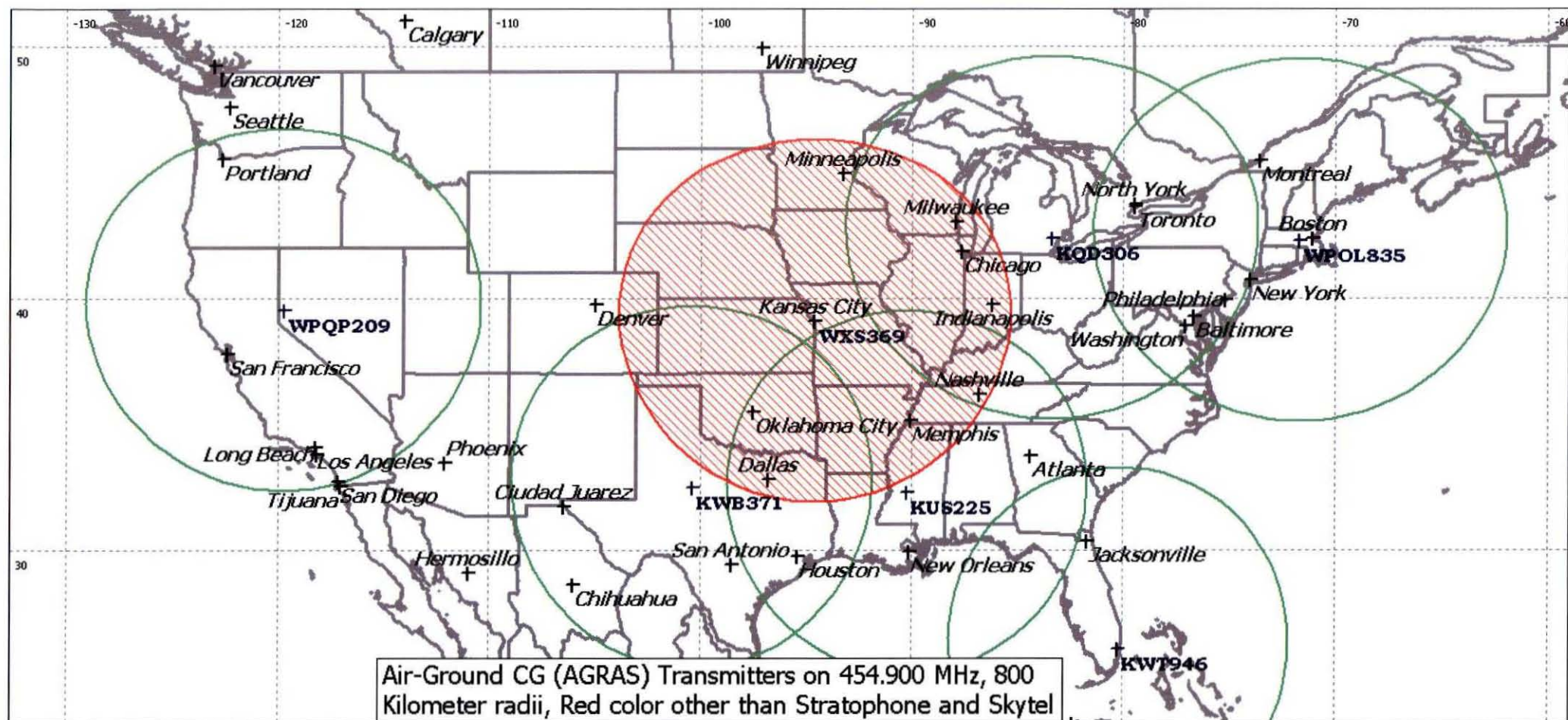




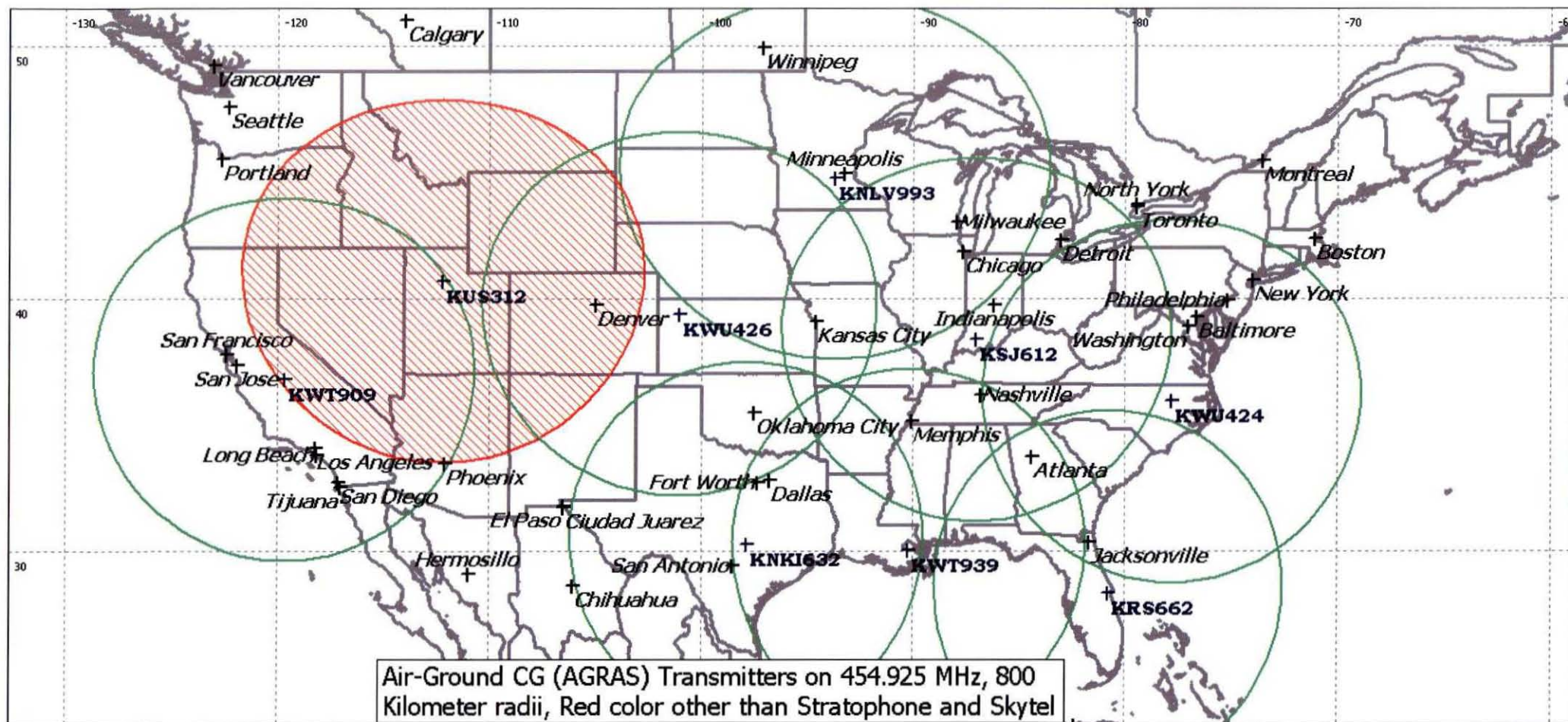


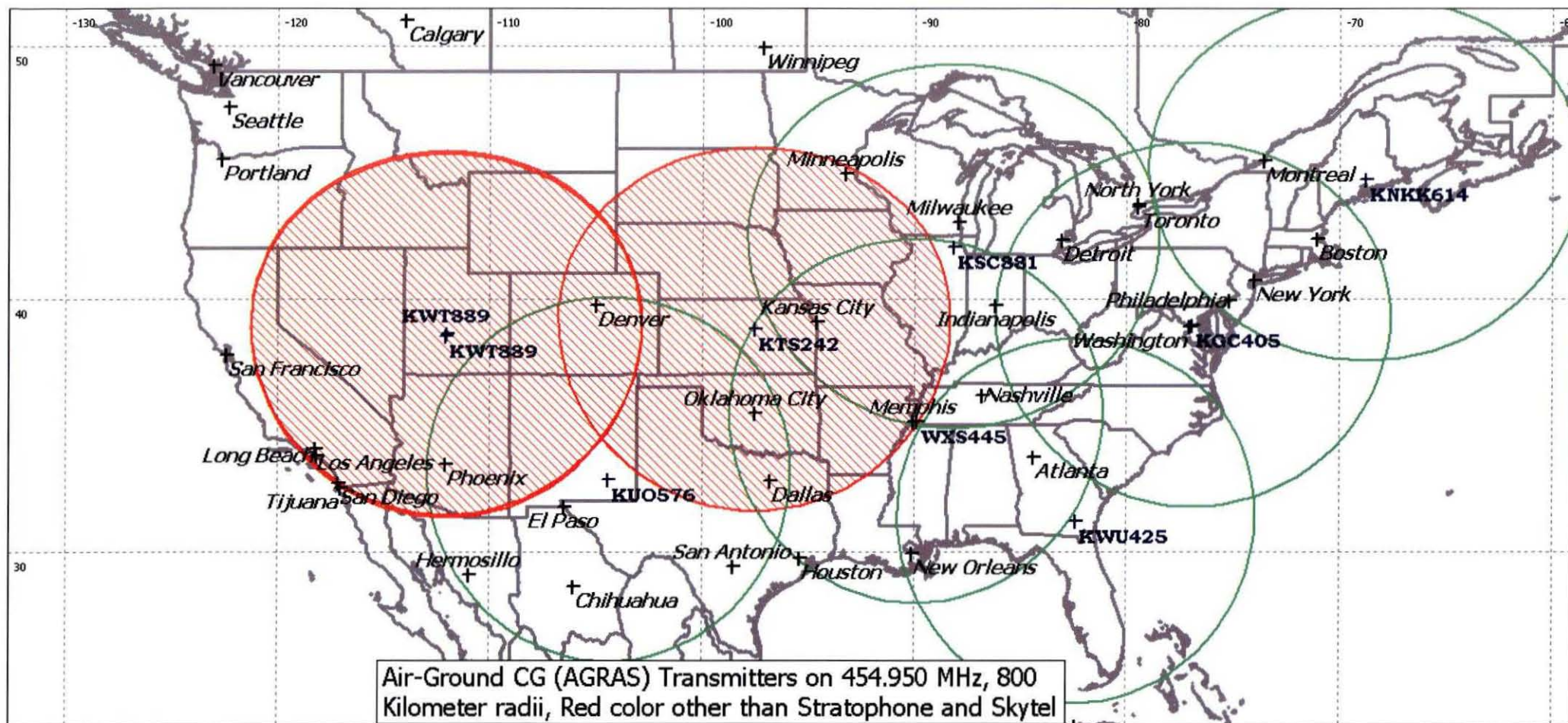




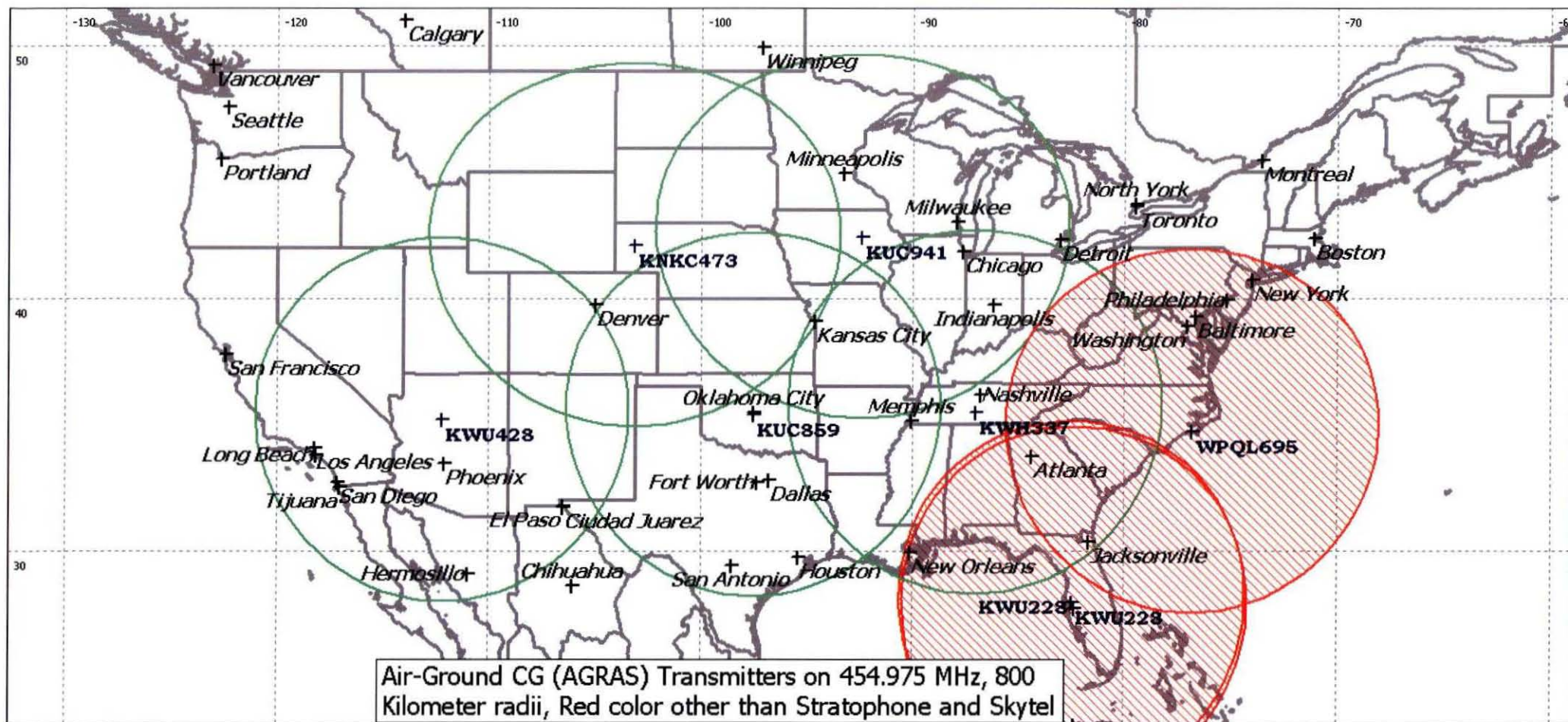


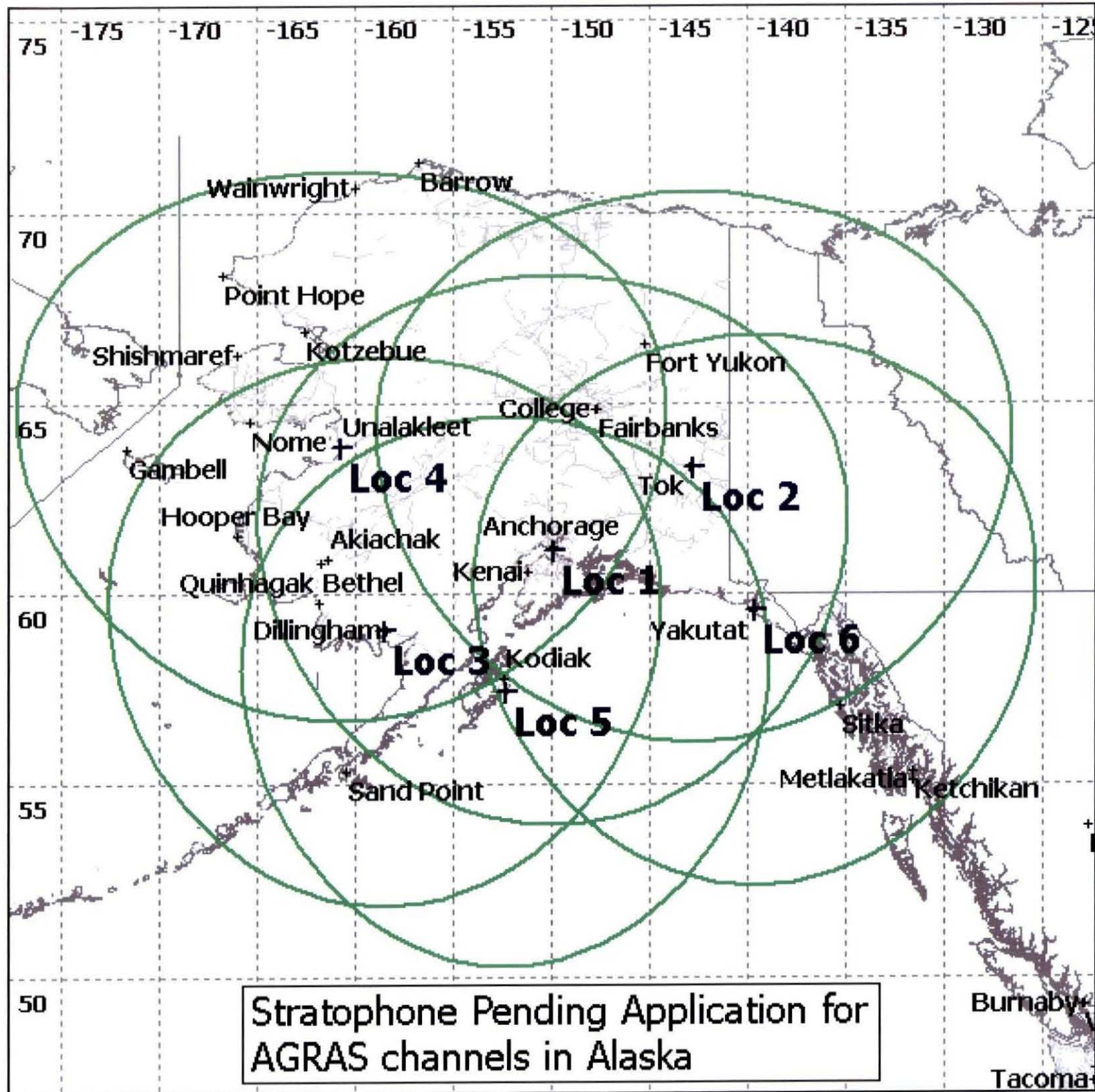






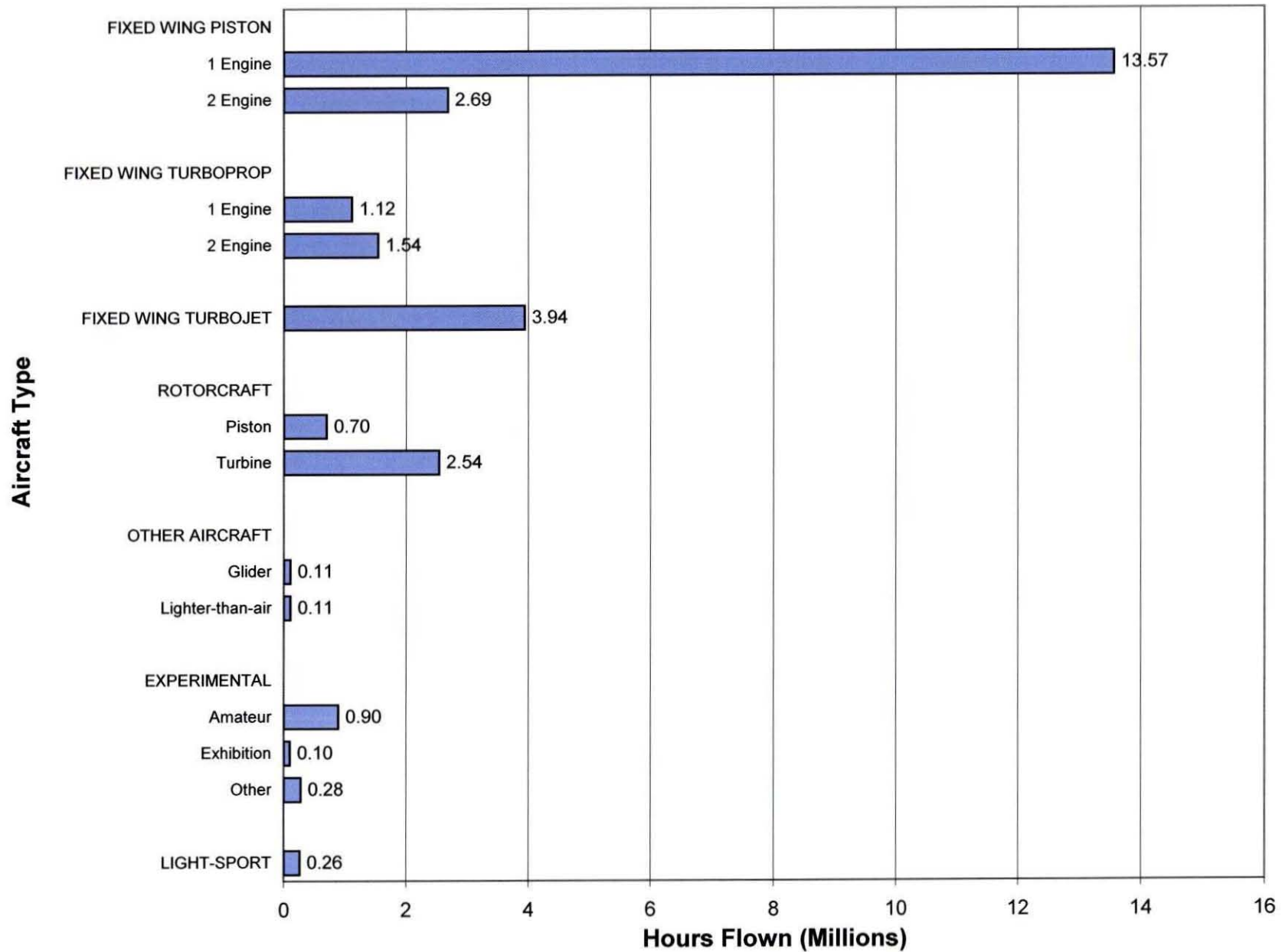




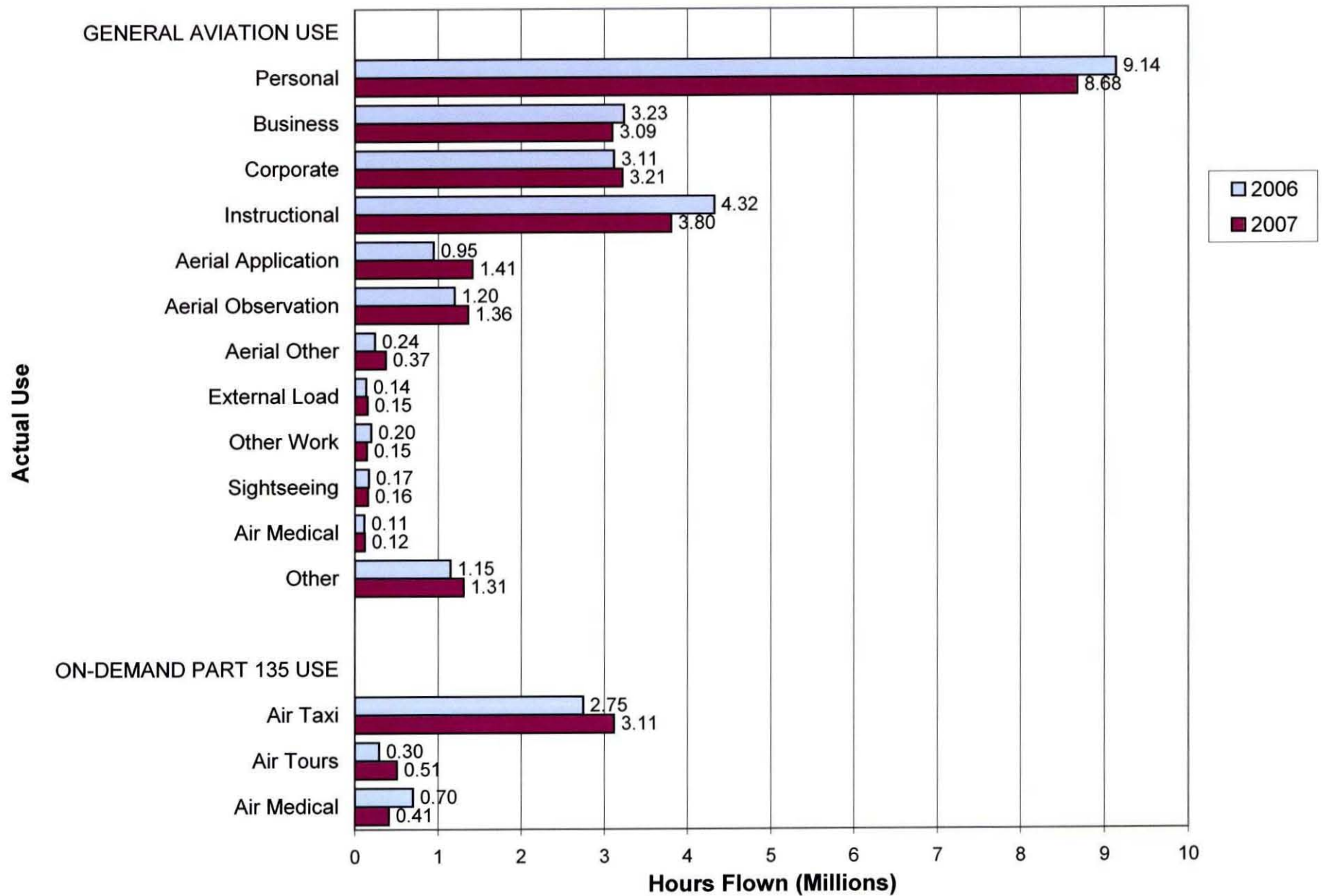




**Chart 1**  
**2007 Hours Flown by Aircraft Type**



**Chart 2**  
**2006 and 2007 Hours Flown by Actual Use**





**Chart 3**  
**2007 Hours Flown by Actual Use**

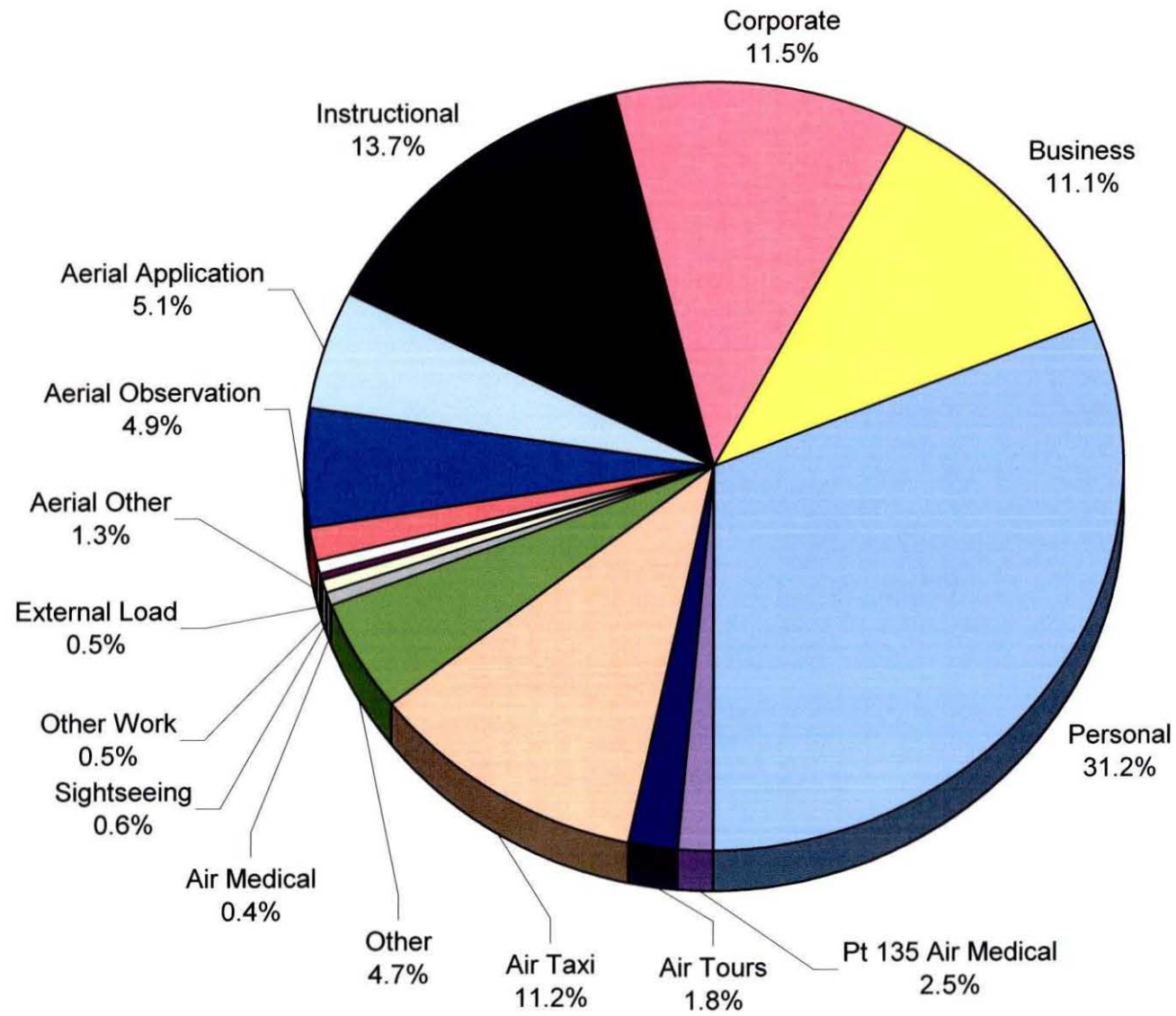


Table 1.1

**2007 GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT BY PRIMARY USE***  
**BY AIRCRAFT TYPE**

AIRCRAFT TYPE	Total Active	General Aviation Use												On-Demand FAR Part 135 Use		
		Per- sonal	Busi- ness	Cor- porate	Instruc- tional	Aerial Apps	Aerial Obs	Aerial Other	External Load	Other Work	Sight See	Air Med <sup>1</sup>	Other	Air Taxi <sup>2</sup>	Air Tours	Air Med
Fixed Wing: Total	186,806	120,616	23,796	10,128	12,301	3,485	3,286	773	6	572	588	59	3,817	6,649	435	294
% Std. Error	1.6	2.7	1.7	0.8	1.9	1.3	1.5	1.5	0.8	1.2	2.5	0.7	1.4	0.6	1.1	0.6
Piston: Total	166,907	118,180	21,094	2,433	12,129	2,435	2,795	626	0	413	560	25	2,982	2,774	404	56
% Std. Error	2.4	3.1	2.3	2.2	2.0	5.3	2.1	2.5	0.0	2.2	3.6	0.8	2.3	0.8	1.2	0.6
1 Engine: Total	147,569	109,372	15,543	934	11,284	2,397	2,482	405	0	411	560	18	2,413	1,413	323	15
% Std. Error	2.5	3.2	2.2	1.8	2.1	5.6	2.1	3.8	0.0	2.3	3.6	0.8	2.8	0.9	1.3	0.8
2 Engine: Total	19,337	8,808	5,551	1,499	845	38	313	222	0	2	0	7	569	1,361	81	41
% Std. Error	1.5	2.5	2.5	2.1	1.2	2.7	1.6	1.4	0.0	0.0	0.0	0.7	1.1	0.5	0.8	0.4
Turboprop: Total	9,514	1,687	1,822	2,224	117	1,047	471	131	6	85	4	26	428	1,281	31	151
% Std. Error	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.3	0.3
1 Engine: Total	4,059	961	883	306	44	1,038	30	77	0	36	0	10	91	547	31	4
% Std. Error	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.0	0.4	0.3	0.2	0.2	0.4
2 Engine: Total	5,456	726	939	1,918	74	8	441	54	6	49	4	16	337	735	0	147
% Std. Error	0.3	0.4	0.4	0.4	0.4	0.6	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.0	0.3
Turbojet: Total	10,385	749	880	5,472	54	3	19	15	0	73	24	7	407	2,594	0	87
% Std. Error	0.3	0.4	0.4	0.3	0.4	0.0	0.5	0.4	0.0	0.3	0.3	0.5	0.4	0.3	0.0	0.3
Rotorcraft: Total	9,567	1,492	567	537	1,083	585	1,760	505	175	69	97	159	585	1,196	396	362
% Std. Error	0.7	1.0	1.0	0.9	1.0	1.0	1.0	0.9	0.8	0.9	1.0	0.9	0.9	0.8	0.8	0.9
Piston: Total	2,769	910	235	21	866	236	232	33	6	12	63	0	86	54	11	3
% Std. Error	1.1	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.9	2.1	1.4	0.0	1.6	1.4	2.0	0.0
Turbine: Total	6,798	582	332	516	217	349	1,528	472	169	56	34	159	499	1,142	384	359
% Std. Error	0.5	0.7	0.8	0.7	0.8	0.8	0.8	0.7	0.6	0.7	0.8	0.8	0.7	0.6	0.6	0.7
1 Engine: Turbine	5,431	552	304	312	212	342	1,455	391	134	51	34	82	313	738	372	139
% Std. Error	0.6	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.6	0.6	0.8	0.8	0.7	0.6	0.6	0.8
Multi-Engine: Turbine	1,367	30	28	204	5	7	73	80	35	5	0	77	186	404	12	220
% Std. Error	0.3	0.8	0.9	0.8	1.1	0.7	0.8	0.8	0.7	1.2	0.0	0.9	0.7	0.7	0.9	0.7



Table 1.1

**2007 GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT BY PRIMARY USE***  
**BY AIRCRAFT TYPE**

AIRCRAFT TYPE	Total Active	General Aviation Use												On-Demand FAR Part 135 Use		
		Per- sonal	Busi- ness	Cor- porate	Instruc- tional	Aerial Apps	Aerial Obs	Aerial Other	External Load	Other Work	Sight See	Air Med <sup>1</sup>	Other	Air Taxi <sup>2</sup>	Air Tours	Air Med
Other Aircraft: Total	5,940	4,726	4	23	330	0	3	2	2	132	558	0	118	2	39	0
% Std. Error	1.6	2.1	1.8	2.0	1.9	0.0	0.0	0.0	0.0	2.8	2.0	0.0	2.2	0.0	2.2	0.0
Gliders	1,947	1,635	2	10	211	0	0	0	2	8	44	0	34	0	0	0
% Std. Error	1.1	1.5	0.0	1.6	1.5	0.0	0.0	0.0	0.0	2.7	1.7	0.0	1.6	0.0	0.0	0.0
Lighter-than-air	3,993	3,091	2	13	119	0	3	2	0	123	513	0	85	2	39	0
% Std. Error	2.0	2.7	0.0	2.7	3.3	0.0	0.0	0.0	0.0	2.9	2.1	0.0	2.8	0.0	2.3	0.0
Experimental: Total	23,228	20,404	594	168	422	93	106	78	4	147	18	4	1,084	95	11	1
% Std. Error	1.8	2.2	2.1	1.5	2.1	2.1	1.6	2.1	1.8	1.9	1.8	1.9	2.2	1.3	1.6	0.0
Amateur	19,538	17,895	428	5	353	45	26	34	2	70	11	0	670	0	0	0
% Std. Error	2.1	2.5	2.6	1.5	2.3	4.6	1.8	7.0	0.0	2.6	2.1	0.0	3.3	0.0	0.0	0.0
Exhibition	2,101	1,807	42	7	29	4	7	7	0	23	0	0	175	0	0	0
% Std. Error	1.1	1.4	1.9	2.0	1.3	1.3	2.0	2.0	0.0	1.6	0.0	0.0	1.1	0.0	0.0	0.0
Other	1,589	702	123	156	40	44	73	36	2	54	7	4	240	95	11	1
% Std. Error	0.7	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.0	0.9	1.2	1.2	0.9	0.8	1.0	0.0
Light-sport	6,066	5,277	32	7	514	2	32	0	0	17	14	0	171	0	0	0
% Std. Error	0.5	0.7	0.7	0.8	0.7	0.0	0.7	0.0	0.0	0.8	0.8	0.0	0.7	0.0	0.0	0.0
Total All Aircraft	231,607	152,514	24,993	10,864	14,650	4,164	5,188	1,358	188	936	1,275	222	5,776	7,942	880	657
% Std. Error	1.5	2.0	1.8	0.9	1.7	1.4	1.3	1.2	0.8	1.3	1.5	0.9	1.3	0.7	1.0	0.8

## Table Notes:

<sup>1</sup> Excludes Air Medical Services conducted under FAR Part 135.<sup>2</sup> Excludes Air Tour and Air Medical FAR Part 135.

Definitions of use categories may be found in Appendix B, Figure B.1.

Starting in 2004, Far Part 135 Air Taxi, Air Tours, Air Medical, and Commuter use categories were added and tabulated separately from other general use categories.

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Table cells that are populated by a small number of aircraft may display relatively high standard errors for the corresponding estimates. Estimates in these types of categories also may vary noticeably from year to year and should be interpreted with caution.

Columns may not add to totals due to rounding procedures.

Estimated number of light-sport aircraft has increased significantly in 2007 due to mandatory regulation process changes.

Table 1.2

GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT*  
BY AIRCRAFT TYPE 1996-2007

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
Fixed Wing: Total	186,806	182,186	185,373	182,867	176,624	176,283	177,697	183,276	184,723	175,203	166,854	163,691	162,342	150,158	156,936	171,671
% Std. Error	1.6	1.6	1.4	1.5	2.6	2.1	2.1	2.2	2.2	1.8	0.7	0.7	0.7	0.7	0.7	0.7
Piston: Total	166,907	163,743	167,608	165,189	160,938	161,087	163,314	170,513	171,923	162,963	156,056	153,551	152,788	142,152	149,156	162,881
% Std. Error	2.4	2.1	1.8	1.8	2.9	2.2	2.2	2.3	2.3	1.9	0.7	0.7	0.7	0.8	0.8	7.0
1 Engine: Total	147,569	145,036	148,101	146,613	143,265	143,503	145,034	149,422	150,886	144,234	140,038	137,401	137,049	127,351	133,516	144,837
% Std. Error	2.5	2.3	1.9	1.9	3.2	2.3	2.3	2.3	2.4	1.9	0.7	0.7	0.8	0.8	0.8	0.8
2 Engine: Total	19,337	18,708	19,412	18,469	17,491	17,483	18,192	20,951	20,930	18,659	15,938	16,082	15,706	14,750	15,626	17,966
% Std. Error	1.5	1.2	1.2	1.4	1.7	2.0	2.2	2.0	1.4	1.2	2.8	2.4	2.1	2.3	2.1	1.7
Piston: Other	N/A	N/A	95	107	182	101	89	140	108	70	79	68	33	51	14	77
% Std. Error	N/A	N/A	2.1	1.6	3.1	1.0	1.3	1.7	2.7	4.0	43.0	47.4	76.0	48.8	40.7	17.7
Turboprop: Total	9,514	8,063	7,942	8,379	7,689	6,841	6,596	5,762	5,679	6,174	5,619	5,716	4,995	4,092	4,116	4,786
% Std. Error	0.3	0.3	0.3	0.3	1.0	0.9	0.9	1.0	1.0	0.7	2.1	2.5	3.7	3.2	3.3	3.1
1 Engine: Total	4,059	2,576	2,595	2,468	1,821	1,108	915	678	1,018	1,033	650	719	668	481	650	N/A
% Std. Error	0.2	0.2	0.3	0.3	1.1	0.8	0.7	1.0	0.4	0.3	5.8	6.0	6.2	5.0	6.8	
2 Engine: Total	5,456	5,487	5,307	5,858	5,790	5,703	5,643	5,040	4,641	5,076	4,939	4,917	4,295	3,605	3,443	4,187
% Std. Error	0.3	0.3	0.3	0.4	1.0	1.0	0.9	1.0	1.1	0.7	2.1	2.8	4.3	3.7	3.8	3.5
Turboprop: Other	N/A	N/A	40	54	78	30	38	45	21	65	29	80	32	7	24	599
% Std. Error	N/A	N/A	1.6	1.4		0.9	2.0	2.0	3.9	1.6		24.0	45.8		41.0	3.0



Table 1.2

GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT*  
BY AIRCRAFT TYPE 1996-2007

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
Turbojet: Total	10,385	10,379	9,823	9,298	7,997	8,355	7,787	7,001	7,120	6,066	5,178	4,424	4,559	3,914	3,663	4,004
% Std. Error	0.3	0.3	0.3	0.4	1.1	1.6	1.3	1.3	1.1	1.2	3.0	2.3	2.5	2.2	2.8	2.4
2 Engine: Total	N/A	10,379	9,097	8,649	7,465	7,655	5,643	6,215	6,387	5,513	4,638	4,077	4,071	3,652	3,426	3,738
% Std. Error	N/A	0.3	0.3	0.3	1.1	1.7	0.9	1.2	1.1	1.3	3.2	2.5	2.5	2.1	2.9	2.3
Turbojet: Other	N/A	N/A	727	650	532	701	831	786	733	552	539	347	488	262	237	266
% Std. Error	N/A	N/A	1.0	1.0	1.3	1.2	1.0	1.9	1.4	1.0	8.2	6.3	14.6	15.1	11.8	15.3
Rotorcraft: Total	9,567	9,159	8,728	7,821	6,525	6,648	6,783	7,150	7,448	7,425	6,786	6,570	5,830	4,728	4,721	5,979
% Std. Error	0.7	0.6	0.7	0.8	1.2	1.7	1.7	1.9	1.6	1.0	2.5	3.3	4.4	5.1	3.4	3.8
Piston: Total	2,769	3,264	3,039	2,315	2,123	2,351	2,292	2,680	2,564	2,545	2,259	2,507	1,863	1,627	1,846	2,348
% Std. Error	1.1	0.9	0.9	1.0	1.4	1.9	2.0	2.3	2.3	0.9	6.0	6.3	9.2	10.3	6.3	7.7
Turbine: Total	6,798	5,895	5,689	5,506	4,403	4,297	4,491	4,470	4,884	4,881	4,527	4,063	3,967	3,101	2,875	3,631
% Std. Error	0.5	0.5	0.6	0.7	1.1	1.6	1.5	1.6	1.2	1.2	2.3	3.8	5.0	5.8	4.0	3.9
1 Engine: Turbine	5,431	4,627	4,537	4,376	3,550	3,611	3,607	3,776	4,045	4,038	3,762	3,420	3,234	2,485	2,246	N/A
% Std. Error	0.6	0.5	0.7	0.7	1.1	1.7	1.6	1.5	1.2	1.1	2.4	4.1	6.3	7.3	5.0	
Multi-Engine: Turbine	1,367	1,268	1,151	1,130	853	686	884	694	839	843	764	643	733	616	629	N/A
% Std. Error	0.3	0.3	0.4	0.4	0.8	1.3	1.2	2.1	1.1	1.4	6.2	9.0	5.9	6.9	5.3	

Table 1.2

GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT*  
BY AIRCRAFT TYPE 1996-2007

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
Other Aircraft: Total	5,940	6,277	6,454	5,939	6,008	6,377	6,545	6,700	6,765	5,580	4,092	4,244	4,741	5,906	5,037	8,000
% Std. Error	1.6	1.3	1.9	2.0	1.9	1.8	1.8	2.1	1.8	2.1	5.8	5.5	3.8	4.9	1.9	2.9
Gliders	1,947	1,975	2,074	2,116	2,002	1,951	1,904	2,041	2,041	2,105	2,016	1,934	2,182	2,976	1,814	N/A
% Std. Error	1.1	1.0	1.3	1.3	1.4	1.6	1.7	2.2	1.5	1.5	4.1	4.5	4.9	6.4	6.9	
Lighter-than-air	3,993	4,303	4,380	3,823	4,006	4,426	4,641	4,660	4,725	3,475	2,075	2,310	2,559	2,931	3,223	N/A
% Std. Error	2.0	1.5	2.4	2.5	2.3	1.9	1.8	2.1	1.9	2.5	10.6	9.4	5.2	7.2	5.7	
Experimental: Total	23,228	23,047	23,627	22,800	20,550	21,936	20,421	20,407	20,528	16,502	14,680	16,625	15,176	12,144	10,426	N/A
% Std. Error	1.8	1.8	3.0	2.9	3.6	3.7	3.9	4.7	2.4	2.4	4.3	4.1	3.3	3.9	N/A	
Amateur	19,538	19,316	19,817	19,165	17,028	18,168	16,736	16,739	16,858	13,189	10,261	11,566	9,328	8,833	6,171	N/A
% Std. Error	2.1	2.1	3.9	3.4	5.4	4.3	4.7	5.9	2.6	2.4	5.8	5.6	4.6	4.9	5.9	
Exhibition	2,101	2,103	2,120	2,070	2,031	2,190	2,052	1,973	1,999	1,630	1,798	2,094	2,245	637	1,868	N/A
% Std. Error	1.1	1.1	1.4	1.6	1.5	1.9	2.0	2.2	1.4	3.0	7.3	8.6	7.8	16.8	7.4	
Other	1,589	1,629	1,691	1,565	1,491	1,578	1,633	1,694	1,671	1,684	2,620	2,965	3,603	2,674	2,387	N/A
% Std. Error	0.7	0.8	1.0	1.1	1.0	1.9	1.6	1.6	1.4	1.7	6.0	4.2	3.5	5.4	5.0	
Light-sport	6,066	1,273	170	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% Std. Error	0.5	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Aircraft	231,607	221,943	224,352	219,426	209,708	211,244	211,446	217,533	219,464	204,710	192,414	191,129	188,089	172,935	177,120	185,650
% Std. Error	1.5	1.5	1.5	1.6	2.5	2.3	2.3	2.4	2.1	1.8	0.7	0.7	0.7	0.7	0.7	0.7

## Table Notes:

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Table cells that are populated by a small number of aircraft may display relatively high standard errors for the corresponding estimates.

Estimates in these types of categories also may vary noticeably from year to year and should be interpreted with caution.

Columns may not add to totals due to rounding procedures.

Beginning in 2005, light-sport was added as an aircraft type.

The quality of information used to classify aircraft by type has improved over time, leaving fewer aircraft in otherwise unspecified "other" categories. Beginning with the 2006 survey year, there are too few aircraft in select "other" categories to support reliable statistical estimation. The relatively small number of aircraft that would have been reported in these categories were reassigned to the most frequently occurring aircraft type within the same major group.

Estimated number of light-sport aircraft has increased significantly in 2007 due to mandatory regulation process changes.



Table 1.3

**ACTIVE GENERAL AVIATION AND AIR TAXI *AIRCRAFT***  
**BY PRIMARY USE 1996-2007 (AIRCRAFT IN THOUSANDS)**

General Aviation Use	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Personal	152.5	149.0	151.4	149.7	146.7	146.0	144.0	148.2	147.1	124.3	115.6	113.4
Business	25.0	24.4	25.5	24.2	25.0	24.2	25.5	25.2	24.5	32.6	27.7	30.7
Corporate	10.9	11.1	10.6	10.2	10.5	10.8	10.5	11.0	10.8	11.3	10.4	9.9
Instructional	14.7	14.3	13.4	13.1	12.7	13.2	14.3	14.9	16.1	11.4	14.7	12.7
Aerial Application	4.2	3.4	3.5	3.2	3.3	4.0	3.8	4.3	4.3	4.6	4.9	5.0
Aerial Observation	5.2	4.4	4.7	4.8	4.2	4.5	5.0	5.1	3.2	3.2	3.3	3.0
Aerial Other	1.4	0.8	0.8	0.8	0.8	0.9	0.6	1.0	0.4	N/A	N/A	N/A
External Load	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4
Other Work	0.9	0.7	0.7	0.9	1.7	1.7	1.5	1.8	2.4	1.1	0.7	1.0
Sightseeing	1.3	0.9	0.9	1.1	0.9	0.6	0.9	0.9	0.8	0.7	0.7	0.7
Public Use	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.1	4.0	4.1	4.5
Air Medical <sup>1</sup>	0.2	0.4	0.4	0.5	0.9	1.0	0.9	0.9	0.8	N/A	N/A	N/A
Other	5.8	3.2	3.6	3.1	N/A	N/A	N/A	N/A	N/A	6.0	5.3	5.6
<b>General Aviation Use Total</b>	<b>222.1</b>	<b>212.9</b>	<b>215.8</b>	<b>211.8</b>	<b>206.9</b>	<b>207.1</b>	<b>207.2</b>	<b>213.5</b>	<b>214.7</b>	<b>199.5</b>	<b>187.4</b>	<b>186.9</b>
<b>On-Demand FAR Part 135 Use</b>												
Air Taxi <sup>2</sup>	7.9	7.4	6.9	6.2	2.6	3.9	3.6	3.7	4.3	4.9	4.8	4.1
Air Tours	0.9	0.4	0.6	0.4	0.2	0.3	0.4	0.3	0.3	0.3	0.2	0.1
Air Medical	0.7	1.3	1.0	1.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>On-Demand FAR Part 135 Use Total</b>	<b>9.5</b>	<b>9.1</b>	<b>8.5</b>	<b>7.7</b>	<b>2.8</b>	<b>4.2</b>	<b>4.0</b>	<b>4.0</b>	<b>4.6</b>	<b>5.2</b>	<b>5.0</b>	<b>4.2</b>
<b>Total General Aviation and On-Demand FAR Part 135 Use</b>	<b>231.6</b>	<b>221.9</b>	<b>224.4</b>	<b>219.4</b>	<b>209.7</b>	<b>211.2</b>	<b>211.4</b>	<b>217.5</b>	<b>219.5</b>	<b>204.7</b>	<b>192.4</b>	<b>191.1</b>

Table Notes:

<sup>1</sup> Excludes Air Medical Services conducted under FAR Part 135.<sup>2</sup> Excludes Air Tour and Air Medical FAR Part 135.

Definitions of use categories may be found in Appendix B, Figure B.1.

Beginning in 2004, Air Medical was split into General Aviation and Part 135. Prior to 2003, Air Medical was reported as a single use category under General Aviation.

Starting in 2004, Far Part 135 Air Taxi, Air Tours, Air Medical, and Commuter use categories were added and tabulated separately from other general use categories.

Starting in 2000, public use was asked in a separate question because public use is not mutually exclusive from other use categories.

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Columns may not add to totals due to rounding procedures.

Table 1.4

**2007 GENERAL AVIATION AND AIR TAXI *TOTAL HOURS FLOWN BY ACTUAL USE***  
**BY AIRCRAFT TYPE**

AIRCRAFT TYPE	Total	General Aviation Use												On-Demand FAR Part 135 Use		
		Per-sonal	Busi-ness	Cor-porate	Instruc-tional	Aerial Apps	Aerial Obs	Aerial Other	External Load	Other Work	Sight See	Air Med 1	Other	Air Taxi 2	Air Tours	Air Med
Fixed Wing: Total	22,857,168	7,379,139	2,953,908	2,994,565	3,145,100	1,236,032	747,787	215,858	26,386	74,121	90,474	59,105	985,299	2,577,202	205,582	166,610
% Std. Error	1.3	1.1	2.4	4.1	4.7	6.8	7.4	10.8	53.5	18.2	15.8	12.6	6.4	5.4	16.9	19.9
Piston: Total	16,257,479	6,901,114	2,320,707	637,279	3,075,972	808,664	567,454	142,997	15,970	36,657	73,924	47,255	417,446	1,002,367	181,220	28,453
% Std. Error	1.8	1.6	3.4	13.3	6.6	11.3	11.5	19.0	49.3	26.6	15.4	12.8	7.8	10.9	25.1	47.5
1 Engine: Total	13,571,408	6,281,118	1,720,008	302,337	2,738,942	806,853	497,505	80,295	15,970	34,661	70,802	42,593	340,892	489,163	142,406	7,861
% Std. Error	2.1	1.7	4.0	20.2	7.4	11.7	12.4	24.3	51.3	29.0	16.7	14.0	9.5	14.1	27.5	92.0
2 Engine: Total	2,686,071	619,996	600,698	334,942	337,030	1,811	69,949	62,701	0	1,996	3,122	4,662	76,553	513,204	38,814	20,592
% Std. Error	3.6	3.9	5.2	13.8	14.5	66.2	29.0	23.9	0.0	52.0	31.9	30.0	9.6	12.6	50.7	42.9
Turboprop: Total	2,661,474	228,144	279,801	539,124	48,870	427,017	174,487	69,712	10,190	20,354	853	7,621	180,524	566,775	23,979	84,022
% Std. Error	1.2	2.3	2.5	2.4	9.3	3.7	5.1	5.4	38.9	13.3	21.3	20.7	7.8	4.3	15.8	9.3
1 Engine: Total	1,117,958	113,463	131,444	82,926	21,138	426,461	14,250	16,293	744	10,656	110	2,233	38,742	233,065	23,932	2,503
% Std. Error	1.3	2.9	3.2	7.3	9.6	3.1	16.7	11.3	33.1	17.3	29.9	18.5	6.2	4.5	14.1	23.4
2 Engine: Total	1,543,516	114,682	148,356	456,198	27,732	556	160,237	53,418	9,446	9,699	744	5,388	141,783	333,710	48	81,519
% Std. Error	1.9	3.5	3.9	2.6	15.4	40.3	5.7	6.3	45.4	19.7	26.0	30.4	10.6	6.9	52.3	10.3
Turbojet: Total	3,938,215	249,881	353,400	1,818,162	20,257	350	5,846	3,149	226	17,110	15,697	4,229	387,329	1,008,060	383	54,135
% Std. Error	0.8	3.2	3.1	1.2	14.2	62.2	21.0	26.8	41.2	12.6	21.7	22.0	2.5	2.2	49.9	10.0
Rotorcraft: Total	3,245,458	118,171	71,769	154,344	518,318	149,191	582,389	134,705	122,609	41,947	29,036	56,699	224,586	503,513	295,998	242,183
% Std. Error	1.5	4.9	9.5	7.9	5.2	6.8	4.0	6.8	9.6	18.2	9.3	11.6	10.2	4.2	8.4	5.5
Piston: Total	704,382	67,505	31,253	3,579	429,228	42,198	60,782	4,209	3,264	3,190	16,750	264	17,999	17,034	4,969	2,159
% Std. Error	4.2	8.4	22.7	37.7	6.6	14.9	13.1	28.1	47.6	50.7	13.3	66.2	15.4	22.1	63.4	97.6
Turbine: Total	2,541,076	50,666	40,516	150,766	89,090	106,993	521,607	130,496	119,344	38,757	12,286	56,435	206,587	486,479	291,029	240,024
% Std. Error	1.5	5.8	8.1	7.2	10.8	7.4	3.8	6.3	8.8	17.6	14.5	10.6	10.0	3.8	7.7	4.9
1 Engine: Turbine	1,990,913	48,187	36,658	86,356	83,352	104,300	497,030	96,754	96,241	36,275	12,028	32,061	129,052	334,106	286,230	112,284
% Std. Error	1.8	6.2	8.0	9.2	11.9	7.7	4.0	7.2	10.1	19.2	15.2	14.7	12.6	4.9	8.0	7.5
Multi-Engine: Turbine	550,163	2,479	3,859	64,410	5,739	2,693	24,578	33,741	23,104	2,482	258	24,374	77,535	152,373	4,799	127,741
% Std. Error	2.6	20.5	36.0	10.4	8.4	26.6	11.3	12.0	17.9	37.6	43.6	13.7	15.0	5.2	36.5	5.5



Table 1.4

**2007 GENERAL AVIATION AND AIR TAXI TOTAL HOURS FLOWN BY ACTUAL USE  
BY AIRCRAFT TYPE**

AIRCRAFT TYPE	General Aviation Use													On-Demand FAR Part 135 Use		
	Total	Personal	Business	Corporate	Instructional	Aerial Apps	Aerial Obs	Aerial Other	External Load	Other Work	Sight See	Air Med 1	Other	Air Taxi 2	Air Tours	Air Med
Other Aircraft: Total	214,969	129,047	333	3,547	30,943	2	79	383	52	3,909	35,030	163	9,153	600	1,727	0
% Std. Error	4.9	4.2	61.8	58.0	19.5	119.6	92.3	163.0	147.0	32.3	17.6	128.2	28.6	147.4	27.7	0.0
Gliders	107,597	68,901	220	1,897	26,755	2	12	6	51	1,046	4,354	162	4,191	0	0	0
% Std. Error	5.1	4.5	57.0	60.3	15.1	82.2	85.4	110.1	103.0	61.7	25.5	88.6	35.1	0.0	0.0	0.0
Lighter-than-air	107,372	60,146	114	1,650	4,188	0	68	377	1	2,863	30,676	1	4,962	600	1,727	0
% Std. Error	7.6	4.6	105.9	92.0	26.8	0.0	133.2	207.4	115.2	37.1	24.2	115.2	38.0	184.7	34.6	0.0
Experimental: Total	1,274,625	855,180	65,107	60,158	64,124	29,183	31,525	20,414	2,842	23,384	3,902	2,304	76,604	32,058	4,369	3,472
% Std. Error	3.0	2.2	12.4	22.6	18.2	32.8	31.5	32.7	83.7	32.9	81.4	88.8	11.9	31.9	98.9	93.1
Amateur	896,485	733,217	42,736	702	48,086	8,973	4,601	10,434	1,156	10,184	1,698	56	34,643	0	0	0
% Std. Error	2.7	2.4	11.1	141.4	21.3	47.6	31.3	52.8	173.1	47.9	93.6	92.8	18.4	0.0	0.0	0.0
Exhibition	101,566	75,757	2,162	2,030	3,134	1,936	1,234	1,586	521	2,012	247	0	10,946	0	0	0
% Std. Error	4.9	4.6	25.9	70.6	43.8	99.1	111.8	79.2	81.1	56.8	53.3	0.0	17.5	0.0	0.0	0.0
Other	276,574	46,205	20,209	57,426	12,904	18,273	25,690	8,394	1,166	11,188	1,957	2,248	31,015	32,058	4,369	3,472
% Std. Error	4.6	10.2	15.9	10.7	25.4	21.4	17.7	22.9	58.2	25.9	69.0	43.3	9.6	14.9	47.1	44.4
Light-sport	259,763	194,600	3,065	1,288	45,750	106	1,795	1	4	2,096	1,247	5	9,807	0	0	0
% Std. Error	1.9	1.8	14.9	37.0	7.0	58.8	15.2	57.6	55.5	28.8	30.7	46.2	8.7	0.0	0.0	0.0
Total All Aircraft	27,851,982	8,676,136	3,094,183	3,213,902	3,804,234	1,414,513	1,363,575	371,361	151,893	145,457	159,690	118,275	1,305,449	3,113,372	507,675	412,266
% Std. Error	1.0	0.9	2.0	3.3	3.5	5.1	5.0	7.4	17.4	14.3	9.6	12.5	5.4	3.9	11.5	9.5

## Table Notes:

<sup>1</sup> Excludes Air Medical Services conducted under FAR Part 135.<sup>2</sup> Excludes Air Tour and Air Medical FAR Part 135.

Definitions of use categories may be found in Appendix B, Figure B.1.

Starting in 2004, Far Part 135 Air Taxi, Air Tours, Air Medical, and Commuter use categories were added and tabulated separately from other general use categories.

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Table cells that are populated by a small number of aircraft may display relatively high standard errors for the corresponding estimates.

Estimates in these types of categories also may vary noticeably from year to year and should be interpreted with caution.

Columns may not add to totals due to rounding procedures.

Estimated number of light-sport aircraft has increased significantly in 2007 due to mandatory regulation process changes.

Table 1.5

**GENERAL AVIATION AND AIR TAXI *TOTAL HOURS FLOWN***  
***BY AIRCRAFT TYPE* 1996-2007 (HOURS IN THOUSANDS)**

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Fixed Wing: Total	22,857	22,765	22,311	24,021	23,639	23,486	23,620	26,127	27,046	24,392	24,111	23,402
% Std. Error	1.3	1.2	1.0	1.2	2.1	1.4	1.5	1.5	1.6	1.4	2.2	2.4
Piston: Total	16,257	16,525	16,434	18,142	19,013	18,891	19,194	21,493	22,529	20,402	20,743	20,091
% Std. Error	1.8	1.6	1.3	1.5	2.6	1.6	1.7	1.6	1.8	1.4	2.5	2.7
1 Engine: Total	13,571	13,976	13,739	15,363	16,680	16,325	16,549	18,089	18,983	16,823	18,345	17,606
% Std. Error	2.1	1.9	1.4	1.7	3.2	1.7	1.8	1.8	2.1	1.6	2.8	3.0
2 Engine: Total	2,686	2,550	2,677	2,764	2,317	2,548	2,634	3,385	3,531	3,567	2,380	2,474
% Std. Error	3.6	2.3	2.5	3.0	3.1	4.2	4.8	3.0	3.4	3.0	5.7	5.1
Piston: Other	N/A	N/A	18	16	16	18	10	18	14	11	19	11
% Std. Error	N/A	N/A	33.1	22.7	32.6	11.7	19.2	15.0	26.9	85.9	69.5	57.5
Turboprop: Total	2,661	2,162	2,106	2,161	1,922	1,850	1,773	1,986	1,797	1,765	1,655	1,768
% Std. Error	1.2	1.1	1.4	1.2	2.8	2.5	2.5	3.3	3.5	3.4	5.0	4.8
1 Engine: Total	1,118	853	846	759	519	419	299	277	368	289	321	328
% Std. Error	1.3	1.6	2.5	2.2	5.7	5.2	6.6	5.6	10.8	7.9	10.8	10.2
2 Engine: Total	1,544	1,310	1,252	1,394	1,402	1,427	1,457	1,703	1,424	1,459	1,326	1,419
% Std. Error	1.9	1.3	1.3	1.4	3.2	2.6	2.7	3.9	3.2	3.8	5.7	5.5
Turboprop: Other	N/A	N/A	8	8	1	4	17	7	4	17	9	22
% Std. Error	N/A	N/A	25.6	19.8		36.2	34.0	30.2	56.6	50.2		30.1



Table 1.5

**GENERAL AVIATION AND AIR TAXI *TOTAL HOURS FLOWN***  
***BY AIRCRAFT TYPE* 1996-2007 (HOURS IN THOUSANDS)**

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Turbojet: Total	3,938	4,077	3,771	3,718	2,704	2,745	2,654	2,648	2,721	2,226	1,713	1,543
% Std. Error	0.8	0.8	0.8	1.2	2.5	3.4	3.1	3.5	3.3	4.6	6.4	5.0
2 Engine: Total	N/A	4,077	3,488	3,465	2,486	2,551	2,368	2,324	2,435	1,995	1,557	1,385
% Std. Error	N/A	0.8	0.8	1.3	2.6	3.9	3.9	3.8	3.8	5.1	6.9	5.2
Turbojet: Other	N/A	N/A	282	254	218	194	286	324	286	231	155	158
% Std. Error	N/A	N/A	3.6	4.1	10.7	9.3	5.6	8.5	5.5	12.0	13.8	17.4
Rotorcraft: Total	3,245	3,446	3,056	2,533	2,135	1,876	1,953	2,191	2,630	2,342	2,084	2,122
% Std. Error	1.5	1.2	1.5	1.5	2.6	3.8	3.0	3.9	3.4	3.3	6.6	9.8
Piston: Total	704	918	617	514	448	454	474	530	552	430	343	591
% Std. Error	4.2	3.5	3.7	4.3	5.2	7.2	6.4	7.2	7.8	4.5	13.6	21.9
Turbine: Total	2,541	2,528	2,439	2,020	1,687	1,422	1,479	1,661	2,077	1,912	1,739	1,531
% Std. Error	1.5	1.1	1.4	1.5	2.9	4.3	3.3	4.2	3.3	5.2	7.5	10.6
1 Engine: Turbine	1,991	1,958	1,863	1,538	1,276	1,113	1,156	1,326	1,656	1,415	1,311	1,282
% Std. Error	1.8	1.5	1.8	1.9	3.2	5.1	3.9	4.4	3.7	5.7	9.3	12.4
Multi-Engine: Turbine	550	570	576	481	411	310	322	335	422	497	429	249
% Std. Error	2.6	1.4	2.0	1.7	5.8	7.0	6.1	11.4	7.4	11.4	10.9	14.8

Table 1.5

**GENERAL AVIATION AND AIR TAXI *TOTAL HOURS FLOWN***  
***BY AIRCRAFT TYPE*** 1996-2007 (HOURS IN THOUSANDS)

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Other Aircraft: Total	215	211	267	249	263	333	287	362	309	295	192	227
% Std. Error	4.9	4.4	8.0	7.8	9.9	10.0	7.3	11.7	6.8	12.3	12.1	15.5
Gliders	108	106	121	119	118	158	144	159	155	125	133	150
% Std. Error	5.1	4.5	6.9	5.6	11.0	15.9	9.2	9.9	8.2	9.5	15.6	17.1
Lighter-than-air	107	105	146	130	145	175	143	203	154	169	59	77
% Std. Error	7.6	7.2	15.1	16.0	15.7	10.8	10.4	19.1	10.0	21.6	17.4	31.4
Experimental: Total	1,275	1,218	1,339	1,322	1,292	1,345	1,157	1,280	1,246	1,071	1,327	1,158
% Std. Error	3.0	2.8	4.6	3.6	5.6	6.0	6.3	6.3	3.3	4.0	14.6	6.7
Amateur	896	899	987	990	963	976	794	887	883	729	698	524
% Std. Error	2.7	3.0	4.4	3.5	8.4	6.1	5.7	6.3	3.1	3.8	24.4	9.8
Exhibition	102	103	113	116	103	127	102	113	122	73	246	192
% Std. Error	4.9	4.3	16.9	10.1	5.6	14.9	9.1	10.7	5.4	7.7	28.2	13.2
Other	277	216	239	216	226	242	261	279	242	269	382	442
% Std. Error	4.6	5.5	5.9	5.7	6.0	11.7	10.5	9.0	8.3	10.3	15.9	11.6
Light-sport	260	66	9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% Std. Error	1.9	2.2	5.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Aircraft	27,851,982	27,705	26,982	28,126	27,329	27,040	27,017	29,960	31,231	28,100	27,713	26,909
% Std. Error	1.0	1.0	1.0	1.1	1.7	1.3	1.4	1.4	1.4	1.3	2.1	2.3

## Table Notes:

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Table cells that are populated by a small number of aircraft may display relatively high standard errors for the corresponding estimates.

Estimates in these types of categories also may vary noticeably from year to year and should be interpreted with caution.

Columns may not add to totals due to rounding procedures.

Beginning in 2005, light-sport was added as an aircraft type.

The quality of information used to classify aircraft by type has improved over time, leaving fewer aircraft in otherwise unspecified "other" categories. Beginning with the 2006 survey year, there are too few aircraft in select "other" categories to support reliable statistical estimation. The relatively small number of aircraft that would have been reported in these categories were reassigned to the most frequently occurring aircraft type within the same major group.

Estimated number of light-sport aircraft has increased significantly in 2007 due to mandatory regulation process changes.



Table 1.6

**GENERAL AVIATION AND AIR TAXI *TOTAL HOURS FLOWN***  
***BY ACTUAL USE* 1996-2007 (HOURS IN THOUSANDS)**

<b>General Aviation Use</b>	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Personal	8,676	9,141	9,266	10,239	11,251	11,025	11,266	11,477	11,072	9,781	9,644	9,037
Business	3,094	3,234	3,244	3,249	3,377	3,287	3,579	3,588	3,602	3,523	3,006	3,259
Corporate	3,214	3,114	3,072	2,849	3,227	3,275	2,657	3,341	3,535	3,213	2,878	2,898
Instructional	3,804	4,322	3,635	4,035	4,393	4,182	4,307	5,050	5,795	3,961	4,956	4,759
Aerial Application	1,415	946	1,031	1,142	1,099	1,182	1,038	1,318	1,408	1,306	1,562	1,713
Aerial Observation	1,364	1,197	1,265	1,457	1,262	1,366	1,442	1,545	1,244	812	1,261	1,057
Aerial Other	371	241	148	143	172	187	163	234	120	N/A	N/A	N/A
External Load	152	136	134	125	103	97	131	161	123	153	112	191
Other Work	145	198	176	264	414	369	256	496	605	286	139	265
Sightseeing	160	171	191	204	175	134	183	197	218	169	127	195
Public Use	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,109	1,373	1,096	1,047
Air Medical <sup>1</sup>	118	115	111	161	524	441	408	431	415	N/A	N/A	N/A
Other	1,305	1,149	894	1,019	N/A	N/A	N/A	N/A	N/A	940	819	656
<b>General Aviation Use Total</b>	<b>23,819</b>	<b>23,963</b>	<b>23,168</b>	<b>24,888</b>	<b>25,997</b>	<b>25,545</b>	<b>25,430</b>	<b>27,838</b>	<b>29,246</b>	<b>25,517</b>	<b>25,600</b>	<b>25,077</b>
<b>On-Demand FAR Part 135 Use</b>												
Air Taxi <sup>2</sup>	3,113	2,746	2,857	2,540	1,171	1,346	1,440	1,487	1,874	2,400	2,008	1,734
Air Tours	508	295	352	224	161	149	147	635	111	183	114	100
Air Medical	412	701	605	474	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>On-Demand FAR Part 135 Use Total</b>	<b>4,033</b>	<b>3,742</b>	<b>3,815</b>	<b>3,238</b>	<b>1,332</b>	<b>1,495</b>	<b>1,587</b>	<b>2,122</b>	<b>1,985</b>	<b>2,583</b>	<b>2,122</b>	<b>1,834</b>
<b>Total General Aviation and On-Demand FAR Part 135 Use</b>	<b>27,852</b>	<b>27,705</b>	<b>26,982</b>	<b>28,126</b>	<b>27,329</b>	<b>27,040</b>	<b>27,017</b>	<b>29,960</b>	<b>31,231</b>	<b>28,100</b>	<b>27,713</b>	<b>26,909</b>

## Table Notes:

<sup>1</sup> Excludes Air Medical Services conducted under FAR Part 135.<sup>2</sup> Excludes Air Tour and Air Medical FAR Part 135.

Definitions of use categories may be found in Appendix B, Figure B.1.

Beginning in 2004, Air Medical was split into General Aviation and Part 135. Prior to 2003, Air Medical was reported as a single use category under General Aviation.

Starting in 2004, Far Part 135 Air Taxi, Air Tours, Air Medical, and Commuter use categories were added and tabulated separately from other general use categories.

Starting in 2000, public use was asked in a separate question because public use is not mutually exclusive from other use categories.

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Columns may not add to totals due to rounding procedures.

Table 1.7

**GENERAL AVIATION AND AIR TAXI *AVERAGE HOURS FLOWN***  
***BY AIRCRAFT TYPE* 1996-2007**

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Fixed Wing: Total	122.4	125.0	120.4	131.4	133.8	133.2	132.9	142.6	146.4	139.2	144.5	143.0
% Std. Error	1.0	0.9	0.8	1.0	1.6	1.1	1.2	1.1	1.4	1.2	2.1	2.5
Piston: Total	97.4	100.9	98.1	109.8	118.1	117.3	117.5	126.1	131.0	125.2	132.9	130.8
% Std. Error	1.4	1.2	1.0	1.2	2.0	1.3	1.3	1.2	1.5	1.2	2.4	2.7
1 Engine: Total	92.0	96.4	92.8	104.8	116.4	113.8	114.1	121.1	125.8	116.6	131.0	128.1
% Std. Error	1.6	1.4	1.1	1.3	2.4	1.4	1.4	1.4	1.7	1.3	2.6	3.0
2 Engine: Total	138.9	136.3	137.9	149.7	132.5	145.7	144.8	161.6	168.7	191.2	149.3	153.8
% Std. Error	3.1	1.9	2.1	2.5	2.5	3.5	3.9	2.5	2.9	2.5	5.0	4.5
Piston: Other	N/A	N/A	191.2	146.1	86.9	176.6	114.8	132.4	127.8	163.6	238.0	159.5
% Std. Error	N/A	N/A	14.7	10.9	26.0	7.2	8.5	6.8	12.2	28.0	54.4	31.6
Turboprop: Total	279.7	268.2	265.2	257.9	250.0	270.4	268.7	344.7	316.3	285.8	294.5	309.3
% Std. Error	1.1	1.0	1.3	1.1	2.5	2.2	2.3	3.0	3.2	3.1	4.6	3.6
1 Engine: Total	275.4	331.0	326.0	307.7	285.1	378.5	327.1	408.3	362.1	279.6	492.5	456.2
% Std. Error	1.2	1.5	2.3	2.1	4.9	4.7	6.0	4.8	10.6	6.8	9.1	6.7
2 Engine: Total	282.9	238.7	235.9	238.0	242.1	250.2	258.1	337.9	306.8	287.5	268.4	288.5
% Std. Error	1.8	1.2	1.2	1.3	2.9	2.4	2.4	3.6	2.9	3.4	5.2	4.2
Turboprop: Other	N/A	N/A	208.4	139.1	10.0	123.3	440.7	147.4	203.5	259.4	304.3	269.6
% Std. Error	N/A	N/A	14.0	13.1		24.4	13.6	13.9	15.7	33.4	31.0	17.9



Table 1.7

GENERAL AVIATION AND AIR TAXI *AVERAGE HOURS FLOWN*  
*BY AIRCRAFT TYPE* 1996-2007

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Turbojet: Total	379.2	392.8	383.9	399.9	338.1	328.6	340.8	378.2	382.1	367.0	330.7	348.7
% Std. Error	0.7	0.7	0.7	1.1	2.3	3.2	2.8	3.1	3.0	3.7	5.6	4.4
Turbojet: Other	N/A	N/A	388.6	390.6	410.4	277.4	344.0	411.9	390.3	418.6	287.5	453.7
% Std. Error	N/A	N/A	2.6	2.9	7.7	7.9	4.5	6.8	4.3	9.0	11.1	12.2
Rotorcraft: Total	339.2	376.2	350.1	323.9	327.1	282.2	288.0	306.5	353.1	315.4	307.0	323.1
% Std. Error	1.2	0.9	1.1	1.1	1.7	2.6	2.1	2.7	2.5	2.6	6.2	9.3
Piston: Total	254.4	281.2	202.9	222.0	210.9	192.9	207.0	197.7	215.5	169.0	152.2	235.9
% Std. Error	2.7	2.4	2.6	2.7	3.0	4.5	3.8	4.4	4.9	3.0	12.1	19.8
Turbine: Total	373.8	428.8	428.8	366.8	383.2	331.0	329.3	371.7	425.3	391.8	384.3	376.9
% Std. Error	1.3	0.9	1.1	1.2	2.1	3.2	2.5	3.2	2.8	4.4	7.1	10.2
1 Engine: Turbine	366.6	423.1	410.6	351.5	359.5	308.1	320.6	351.1	409.3	350.5	348.4	374.8
% Std. Error	1.5	1.2	1.4	1.5	2.3	3.7	2.8	3.4	3.1	4.8	9.0	12.0
Multi-Engine: Turbine	402.4	449.5	500.7	426.0	481.5	451.7	364.7	483.5	502.5	589.9	561.0	388.1
% Std. Error	2.4	1.2	1.7	1.5	4.7	5.2	4.9	7.5	6.0	9.1	9.0	12.9

Table 1.7

**GENERAL AVIATION AND AIR TAXI *AVERAGE HOURS FLOWN***  
***BY AIRCRAFT TYPE 1996-2007***

AIRCRAFT TYPE	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Other Aircraft: Total	36.2	33.6	41.4	42.0	43.9	52.2	43.8	54.0	45.7	52.8	46.8	53.6
% Std. Error	2.9	2.8	5.2	4.8	6.1	6.8	4.9	7.8	4.7	8.1	11.4	15.5
Gliders	55.3	53.7	58.4	56.2	59.1	80.9	75.7	77.7	76.1	59.5	66.0	77.8
% Std. Error	3.1	2.8	4.5	3.8	7.3	10.8	6.0	6.6	5.6	7.1	15.0	16.8
Lighter-than-air	26.9	24.3	33.4	34.1	36.2	39.6	30.7	43.6	32.5	48.7	28.2	33.3
% Std. Error	4.4	4.4	9.6	9.4	9.4	7.3	7.1	12.8	6.9	13.0	13.7	32.4
Experimental: Total	54.9	52.8	56.7	58.0	62.9	61.3	56.6	62.7	60.7	64.9	90.4	69.6
% Std. Error	1.7	1.6	2.8	2.1	3.2	3.7	3.6	3.5	2.0	2.3	14.2	5.7
Amateur	45.9	46.5	49.8	51.7	56.6	53.7	47.5	53.0	52.4	55.3	68.1	45.3
% Std. Error	1.5	1.7	2.6	2.0	4.6	3.6	3.1	3.3	1.8	2.1	23.7	8.1
Exhibition	48.3	49.1	53.1	55.8	50.8	58.0	49.7	57.3	60.8	44.5	136.8	91.5
% Std. Error	3.4	2.9	12.3	7.2	3.9	11.4	6.6	7.5	4.0	6.2	27.2	10.7
Other	174.1	132.4	141.5	138.2	151.4	153.6	159.6	164.9	144.8	159.8	145.6	149.1
% Std. Error	3.3	3.9	4.3	3.9	4.2	8.3	7.7	6.7	6.2	7.7	14.8	10.7
Light-sport	42.8	51.7	54.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
% Std. Error	1.4	1.8	5.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Aircraft	120.3	124.8	120.3	128.2	130.3	128.0	127.8	137.7	142.3	137.3	144.0	140.8
% Std. Error	0.7	0.7	0.7	0.8	1.3	1.0	1.0	1.1	1.1	1.0	2.0	2.3

## Table Notes:

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Table cells that are populated by a small number of aircraft may display relatively high standard errors for the corresponding estimates.

Estimates in these types of categories also may vary noticeably from year to year and should be interpreted with caution.

Columns may not add to totals due to rounding procedures.

Beginning in 2005, light-sport was added as an aircraft type.

The quality of information used to classify aircraft by type has improved over time, leaving fewer aircraft in otherwise unspecified "other" categories. Beginning with the 2006 survey year, there are too few aircraft in select "other" categories to support reliable statistical estimation. The relatively small number of aircraft that would have been reported in these categories were reassigned to the most frequently occurring aircraft type within the same major group.

Estimated number of light-sport aircraft has increased significantly in 2007 due to mandatory regulation process changes.

Table 1.8

**2007 GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT  
AND TOTAL HOURS FLOWN***  
**BY FAA REGION AND STATE OF BASED AIRCRAFT**

FAA REGION AND STATE	ACTIVE AIRCRAFT		HOURS FLOWN	
	Aircraft	Percent Standard Error	Hours (Thousands)	Percent Standard Error
Alaskan - Total	6,111	0.8	782.7	2.8
Central - Total	12,769	1.6	1,370.5	4.1
Iowa	2,982	1.4	297.6	6.9
Kansas	3,044	1.4	441.8	6.9
Missouri	4,616	1.9	375.8	8.0
Nebraska	2,127	2.0	255.3	10.7
Eastern - Total	25,886	1.6	3,058.4	2.9
Delaware	2,494	1.0	409.7	6.9
District of Columbia	41	0.4	15.2	9.6
Maryland	2,699	1.0	309.1	6.0
New Jersey	3,369	1.5	315.1	9.6
New York	5,661	1.8	600.4	7.4
Pennsylvania	5,881	2.4	624.1	7.8
Virginia	4,642	1.2	703.2	4.8
West Virginia	1,101	1.9	81.7	16.1



Table 1.8

**2007 GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT  
AND TOTAL HOURS FLOWN*  
BY FAA REGION AND STATE OF BASED AIRCRAFT**

FAA REGION AND STATE	ACTIVE AIRCRAFT		HOURS FLOWN	
	Aircraft	Percent Standard Error	Hours (Thousands)	Percent Standard Error
Great Lakes - Total	37,703	1.6	3,696.0	2.4
Illinois	6,872	1.5	722.8	5.8
Indiana	4,862	1.5	358.3	6.7
Michigan	6,443	1.6	512.3	5.3
Minnesota	5,086	1.6	552.5	5.6
North Dakota	1,236	2.3	171.0	17.3
Ohio	6,189	1.5	740.5	6.3
South Dakota	1,143	2.3	151.3	9.6
Wisconsin	5,872	1.3	487.2	5.3
New England - Total	8,596	1.3	1,013.0	4.8
Connecticut	2,296	1.3	379.8	8.1
Maine	1,463	1.5	127.9	12.6
Massachusetts	2,738	1.1	316.9	8.5
New Hampshire	1,425	1.5	107.0	11.3
Rhode Island	243	1.5	42.7	18.9
Vermont	431	1.5	38.8	14.5

Table 1.8

**2007 GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT  
AND TOTAL HOURS FLOWN*  
BY FAA REGION AND STATE OF BASED AIRCRAFT**

FAA REGION AND STATE	ACTIVE AIRCRAFT		HOURS FLOWN	
	Aircraft	Percent Standard Error	Hours (Thousands)	Percent Standard Error
Northwest Mountain - Total	28,392	1.5	3,557.5	3.6
Colorado	5,441	1.5	662.8	6.7
Idaho	2,747	1.3	319.5	7.0
Montana	3,110	1.8	348.5	9.8
Oregon	6,029	1.3	725.1	6.3
Utah	2,057	1.0	386.1	6.1
Washington	7,722	1.8	948.7	11.2
Wyoming	1,287	1.3	166.8	8.7
Southern - Total	42,740	1.5	5,501.9	2.0
Alabama	3,719	1.6	371.7	7.6
Florida	16,341	1.6	2,197.9	3.2
Georgia	4,758	1.8	568.2	5.5
Kentucky	2,073	1.8	185.5	8.4
Mississippi	1,939	0.8	381.3	7.2
North Carolina	5,917	1.6	928.1	6.2
Puerto Rico	348	0.5	53.5	10.4
South Carolina	3,214	1.6	260.1	10.3
Tennessee	4,286	1.2	524.4	4.5

Table 1.8

**2007 GENERAL AVIATION AND AIR TAXI *NUMBER OF ACTIVE AIRCRAFT  
AND TOTAL HOURS FLOWN*  
BY FAA REGION AND STATE OF BASED AIRCRAFT**

FAA REGION AND STATE	ACTIVE AIRCRAFT		HOURS FLOWN	
	Aircraft	Percent Standard Error	Hours (Thousands)	Percent Standard Error
Southwest - Total	33,909	1.4	4,844.9	2.2
Arkansas	2,575	1.7	337.9	9.0
Louisiana	2,857	1.3	756.0	4.3
New Mexico	4,221	1.3	460.8	8.2
Oklahoma	4,021	1.4	840.4	5.8
Texas	20,235	1.4	2,449.8	2.8
Western-Pacific - Total	35,501	1.5	4,027.0	2.9
Arizona	7,636	1.5	807.0	5.7
California	23,813	1.7	2,540.3	3.5
Hawaii	531	1.1	105.8	16.8
Nevada	3,512	1.1	573.3	8.6
Total	231,607	1.5	27,852.0	1.0

## Table Notes:

Beginning in 2004, commuter activity is excluded from all estimates. 2003 and prior, commuter activity was included in the Air Taxi use category.

Columns may not add to totals due to rounding procedures.

Beginning in 2007, the survey asked the state in which the aircraft was "primarily flown" rather than where the aircraft was "based."

Estimates by state and region may vary from previous years.



TABLE 27

**ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT**

AS OF DEC. 31	FIXED WING						ROTORCRAFT			EXPERI- MENTAL	SPORT AIRCRAFT	OTHER	TOTAL GENERAL AVIATION FLEET	TOTAL PISTONS	TOTAL TURBINES
	PISTON			TURBINE											
	SINGLE ENGINE	MULTI- ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL	PISTON	TURBINE	TOTAL						
<u>Historical*</u>															
2000	149,422	21,091	170,513	5,762	7,001	12,763	2,680	4,470	7,150	20,407	NA	6,700	217,533	173,193	17,233
2001	145,034	18,192	163,226	6,596	7,787	14,383	2,292	4,491	6,783	20,421	NA	6,633	211,446	165,518	18,874
2002	143,503	17,483	160,986	6,841	8,355	15,196	2,351	4,297	6,648	21,936	NA	6,478	211,244	163,337	19,493
2003	143,265	17,491	160,756	7,689	7,997	15,686	2,123	4,403	6,526	20,550	NA	6,088	209,606	162,879	20,089
2004	146,613	18,469	165,082	8,379	9,298	17,677	2,315	5,506	7,821	22,800	NA	5,939	219,319	167,397	23,183
2005	148,101	19,412	167,513	7,942	9,823	17,765	3,039	5,689	8,728	23,627	170	6,459	224,262	170,552	23,454
2006	145,036	18,708	163,744	8,063	10,379	18,442	3,264	5,895	9,159	23,047	1,273	6,277	221,942	167,008	24,337
2007	147,569	19,337	166,906	9,514	10,385	19,899	2,769	6,798	9,567	23,228	6,066	5,940	231,606	169,675	26,697
2008E	146,590	19,130	165,720	9,600	11,400	21,000	3,070	7,145	10,215	24,100	6,965	6,015	234,015	168,790	28,145
<u>Forecast</u>															
2009	145,735	18,965	164,700	9,665	12,325	21,990	3,320	7,440	10,760	24,860	7,865	6,060	236,235	168,020	29,430
2010	144,960	18,795	163,755	9,740	13,155	22,895	3,565	7,735	11,300	25,615	8,765	6,085	238,415	167,320	30,630
2011	144,250	18,630	162,880	9,860	13,945	23,805	3,790	8,010	11,800	26,360	9,765	6,095	240,705	166,670	31,815
2012	143,775	18,455	162,230	10,015	14,710	24,725	3,995	8,265	12,260	27,100	10,765	6,090	243,170	166,225	32,990
2013	143,510	18,275	161,785	10,180	15,530	25,710	4,190	8,510	12,700	27,780	11,665	6,080	245,720	165,975	34,220
2014	143,505	18,095	161,600	10,360	16,325	26,685	4,380	8,750	13,130	28,455	12,165	6,070	248,105	165,980	35,435
2015	143,530	17,910	161,440	10,540	17,100	27,640	4,550	8,970	13,520	29,125	12,665	6,060	250,450	165,990	36,610
2016	143,575	17,720	161,295	10,740	17,870	28,610	4,705	9,175	13,880	29,735	13,065	6,050	252,635	166,000	37,785
2017	143,720	17,540	161,260	10,935	18,635	29,570	4,850	9,370	14,220	30,340	13,465	6,040	254,895	166,110	38,940
2018	144,030	17,345	161,375	11,125	19,390	30,515	4,985	9,550	14,535	30,940	13,765	6,030	257,160	166,360	40,065
2019	144,440	17,155	161,595	11,310	20,150	31,460	5,115	9,735	14,850	31,485	14,065	6,020	259,475	166,710	41,195
2020	144,880	16,965	161,845	11,480	20,945	32,425	5,250	9,920	15,170	32,025	14,365	6,010	261,840	167,095	42,345
2021	145,415	16,770	162,185	11,650	21,765	33,415	5,385	10,110	15,495	32,555	14,665	6,005	264,320	167,570	43,525
2022	146,050	16,585	162,635	11,810	22,610	34,420	5,520	10,300	15,820	33,080	14,965	6,000	266,920	168,155	44,720
2023	146,780	16,395	163,175	11,965	23,455	35,420	5,655	10,490	16,145	33,600	15,265	5,995	269,600	168,830	45,910
2024	147,610	16,205	163,815	12,110	24,310	36,420	5,790	10,680	16,470	34,115	15,565	5,990	272,375	169,605	47,100
2025	148,545	16,005	164,550	12,245	25,165	37,410	5,925	10,870	16,795	34,625	15,865	5,985	275,230	170,475	48,280
Avg Annual Growth:															
2000-08	-0.2%	-1.2%	-0.4%	6.6%	6.3%	6.4%	1.7%	6.0%	4.6%	2.1%		-1.3%	0.9%	-0.3%	6.3%
2008-10	-0.6%	-0.9%	-0.6%	0.7%	7.4%	4.4%	7.8%	4.0%	5.2%	3.1%	12.2%	0.6%	0.9%	-0.4%	4.3%
2010-20	0.0%	-1.0%	-0.1%	1.7%	4.8%	3.5%	3.9%	2.5%	3.0%	2.3%	5.1%	-0.1%	0.9%	0.0%	3.3%
2008-25	0.1%	-1.0%	0.0%	1.4%	4.8%	3.5%	3.9%	2.5%	3.0%	2.2%	5.0%	0.0%	1.0%	0.1%	3.2%

\* Source: 2000-2007, FAA General Aviation and Air Taxi Activity (and Avionics) Surveys.

Note: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

TABLE 28

**ACTIVE GENERAL AVIATION AND AIR TAXI HOURS FLOWN**

(In Thousands)

CALENDAR YEAR	FIXED WING						ROTORCRAFT			EXPERI- MENTAL	SPORT AIRCRAFT	OTHER	TOTAL GENERAL AVIATION HOURS	TOTAL PISTONS	TOTAL TURBINES
	PISTON			TURBINE											
	SINGLE ENGINE	MULTI- ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL	PISTON	TURBINE	TOTAL						
<u>Historical*</u>															
2000	18,089	3,400	21,489	1,986	2,755	4,741	530	1,661	2,191	1,307	NA	374	30,102	22,019	6,402
2001	16,549	2,644	19,193	1,773	2,654	4,427	474	1,478	1,952	1,157	NA	287	27,016	19,667	5,905
2002	16,325	2,566	18,891	1,850	2,745	4,595	453	1,422	1,875	1,345	NA	333	27,039	19,344	6,017
2003	16,680	2,317	18,997	1,922	2,704	4,626	448	1,687	2,135	1,293	NA	264	27,315	19,445	6,313
2004	15,363	2,763	18,126	2,161	3,719	5,880	514	2,020	2,534	1,322	NA	249	28,111	18,640	7,900
2005	13,739	2,677	16,416	2,160	3,767	5,927	678	2,438	3,116	1,340	9	271	27,078	17,094	8,365
2006	13,976	2,550	16,525	2,162	4,077	6,240	918	2,528	3,446	1,218	66	211	27,705	17,443	8,767
2007	13,571	2,686	16,257	2,661	3,938	6,599	704	2,541	3,245	1,275	260	215	27,852	16,961	9,141
2008E	13,530	2,591	16,121	2,594	4,043	6,637	703	2,484	3,187	1,316	305	219	27,784	16,824	9,121
<u>Forecast</u>															
2009	13,289	2,529	15,818	2,614	4,427	7,041	730	2,509	3,238	1,351	351	222	28,020	16,548	9,549
2010	13,150	2,479	15,629	2,640	4,745	7,384	785	2,615	3,400	1,385	399	224	28,420	16,414	9,999
2011	12,973	2,394	15,367	2,688	5,040	7,728	837	2,714	3,552	1,432	453	225	28,757	16,204	10,443
2012	12,866	2,323	15,189	2,737	5,333	8,070	885	2,808	3,692	1,480	509	226	29,166	16,074	10,877
2013	12,804	2,262	15,067	2,775	5,651	8,426	930	2,898	3,828	1,524	563	227	29,635	15,997	11,324
2014	12,791	2,203	14,994	2,814	5,973	8,786	975	2,988	3,962	1,569	599	227	30,138	15,969	11,774
2015	12,867	2,161	15,028	2,849	6,283	9,132	1,015	3,070	4,085	1,614	636	228	30,723	16,043	12,202
2016	12,935	2,126	15,061	2,877	6,590	9,468	1,052	3,148	4,201	1,656	669	229	31,283	16,113	12,616
2017	13,071	2,111	15,182	2,911	6,898	9,809	1,087	3,223	4,311	1,698	704	230	31,934	16,270	13,033
2018	13,210	2,080	15,290	2,956	7,204	10,160	1,121	3,293	4,414	1,741	734	231	32,569	16,411	13,453
2019	13,353	2,046	15,400	3,004	7,512	10,515	1,153	3,366	4,518	1,780	765	231	33,209	16,552	13,881
2020	13,498	2,011	15,509	3,041	7,835	10,875	1,186	3,438	4,624	1,820	796	232	33,856	16,695	14,313
2021	13,617	1,960	15,577	3,068	8,168	11,237	1,220	3,513	4,732	1,859	829	233	34,467	16,796	14,750
2022	13,800	1,939	15,739	3,110	8,513	11,623	1,253	3,588	4,841	1,898	863	234	35,199	16,992	15,211
2023	14,044	1,962	16,006	3,153	8,860	12,013	1,287	3,663	4,950	1,938	898	235	36,040	17,293	15,676
2024	14,312	1,985	16,297	3,190	9,214	12,404	1,321	3,739	5,060	1,977	934	236	36,908	17,618	16,143
2025	14,643	2,019	16,663	3,219	9,569	12,788	1,355	3,815	5,170	2,017	971	237	37,846	18,018	16,602
Avg Annual Growth:															
2000-08	-3.6%	-3.3%	-3.5%	3.4%	4.9%	4.3%	3.6%	5.2%	4.8%	0.1%		-6.5%	-1.0%	-3.3%	4.5%
2008-10	-1.4%	-2.2%	-1.5%	0.9%	8.3%	5.5%	5.7%	2.6%	3.3%	2.6%	14.4%	1.1%	1.1%	-1.2%	4.7%
2010-20	0.3%	-2.1%	-0.1%	1.4%	5.1%	3.9%	4.2%	2.8%	3.1%	2.8%	7.2%	0.4%	1.8%	0.2%	3.7%
2008-25	0.5%	-1.5%	0.2%	1.3%	5.2%	3.9%	3.9%	2.6%	2.9%	2.5%	7.1%	0.5%	1.8%	0.4%	3.6%

\* Source: 2000-2007, FAA General Aviation and Air Taxi Surveys.

1/ Estimates have been revised to reflect changes in edit and estimation procedures, and may not be comparable to estimates prior to 1995.

Note: An active aircraft is one that has a current registration and was flown at least one hour during the previous calendar year.



**TABLE 29**  
**ACTIVE PILOTS BY TYPE OF CERTIFICATE**

AS OF DEC. 31	STUDENTS	RECREA- TIONAL	SPORT PILOT	PRIVATE	COMMERCIAL	AIRLINE TRANSPORT	ROTOR- CRAFT ONLY	GLIDER ONLY	TOTAL PILOTS	TOTAL LESS AT PILOTS	INSTRUMENT RATED PILOTS 1/
<u>Historical*</u>											
2000	93,064	340	NA	251,561	121,858	141,596	7,775	9,387	625,581	483,985	311,944
2001	94,420	316	NA	243,823	120,502	144,702	7,727	8,473	619,963	475,261	315,276
2002	85,991	317	NA	245,230	125,920	144,708	7,770	21,826 2/	609,936	465,228	317,389
2003	87,296	310	NA	241,045	123,990	143,504	7,916	20,950	625,011	481,507	315,413
2004	87,910	291	NA	235,994	122,592	142,160	8,586	21,100	618,633	476,473	313,545
2005	87,213	278	134	228,619	120,614	141,992	9,518	21,369	609,737	467,745	311,500
2006	84,866	239	939	219,233	117,610	141,935	10,690	21,597	597,109	455,174	309,333
2007	84,339	239	2,031	211,096	115,127	143,953	12,290	21,274	590,349	446,396	309,865
2008E	80,989	252	2,623	222,596	124,746	146,838	14,647	21,055	613,746	466,908	325,247
<u>Forecast</u>											
2009	76,300	250	6,500	226,650	125,400	147,650	15,390	21,830	619,970	472,320	323,500
2010	72,050	250	8,500	224,400	124,450	148,400	15,680	21,980	615,710	467,310	321,800
2011	72,800	250	10,200	218,050	125,050	149,100	15,810	22,080	613,340	464,240	320,100
2012	73,550	250	11,000	212,500	123,100	149,700	15,870	22,120	608,090	458,390	321,800
2013	74,300	250	11,550	210,250	120,000	150,300	15,890	22,150	604,690	454,390	323,500
2014	75,250	250	12,150	209,850	117,300	150,850	15,900	22,170	603,720	452,870	325,200
2015	76,200	250	12,800	210,250	119,050	151,350	15,910	22,190	608,000	456,650	326,900
2016	77,200	250	13,450	211,100	120,800	151,800	15,940	22,220	612,760	460,960	328,600
2017	78,200	250	14,150	212,200	122,550	152,250	16,050	22,240	617,890	465,640	331,100
2018	79,200	250	14,900	213,450	124,450	152,700	16,200	22,260	623,410	470,710	333,600
2019	80,200	250	15,650	214,750	126,350	153,150	16,390	22,290	629,030	475,880	336,200
2020	81,250	250	16,450	216,100	128,350	153,600	16,600	22,310	634,910	481,310	338,800
2021	82,300	250	17,200	217,500	130,400	154,050	16,820	22,350	640,870	486,820	342,200
2022	83,350	250	18,000	218,950	132,450	154,450	17,060	22,390	646,900	492,450	345,700
2023	84,400	250	18,850	220,400	134,500	154,850	17,310	22,440	653,000	498,150	349,200
2024	85,500	250	19,700	221,900	136,600	155,250	17,570	22,480	659,250	504,000	352,700
2025	86,600	250	20,600	223,400	138,700	155,650	17,830	22,520	665,550	509,900	356,300
Avg Annual Growth:											
2000-08	-1.7%	-3.7%		-1.5%	0.3%	0.5%	8.2%	10.6%	-0.2%	-0.4%	0.5%
2008-10	-5.7%	-0.4%	80.0%	0.4%	-0.1%	0.5%	3.5%	2.2%	0.2%	0.0%	-0.5%
2010-20	1.2%	0.0%	6.8%	-0.4%	0.3%	0.3%	0.6%	0.1%	0.3%	0.3%	0.5%
2008-25	0.4%	0.0%	12.9%	0.0%	0.6%	0.3%	1.2%	0.4%	0.5%	0.5%	0.5%

\* Source: FAA U.S. Civil Airmen Statistics.

1/ Instrument rated pilots should not be added to other categories in deriving total.

2/ In March 2001, the FAA Registry changed the definition of this pilot category. It added approximately 13,000 to this pilot category.

Note: An active pilot is a person with a pilot certificate and a valid medical certificate.



TABLE 30

**GENERAL AVIATION AIRCRAFT FUEL CONSUMPTION**

(In Millions of Gallons)

CALENDAR YEAR	FIXED WING				ROTORCRAFT		EXPERI- MENTAL/ OTHER	SPORT	TOTAL FUEL CONSUMED		
	PISTON		TURBINE						AVGAS	JET FUEL	TOTAL
	SINGLE ENGINE	MULTI- ENGINE	TURBO- PROP	TURBO- JET	PISTON	TURBINE					
<u>Historical</u>											
2000	200.8	108.4	176.3	736.7	8.4	59.0	15.2	NA	332.8	972.0	1,304.8
2001	180.4	76.4	149.1	726.7	7.2	42.6	15.3	NA	279.2	918.4	1,197.6
2002	177.9	74.2	152.3	745.5	6.9	40.5	17.8	NA	276.7	938.3	1,215.0
2003	181.8	66.7	154.5	729.0	6.8	48.8	17.1	NA	272.4	932.3	1,204.7
2004	167.5	80.1	167.0	1,004.9	7.9	59.0	17.5	NA	272.9	1,230.9	1,503.8
2005	218.4	111.9	196.1	1,181.3	13.3	71.7	17.7	0.0	361.3	1,449.2	1,810.4
2006	208.2	104.8	190.1	1,303.9	16.7	74.8	21.6	0.3	351.6	1,568.8	1,920.4
2007	203.2	110.9	233.9	1,234.3	12.8	75.2	22.6	1.4	350.9	1,543.5	1,894.4
2008E	203.6	107.6	228.0	1,248.1	12.8	73.5	23.3	1.6	348.9	1,549.7	1,898.5
<u>Forecast</u>											
2009	201.0	105.5	229.7	1,353.0	13.2	73.8	23.8	1.9	345.4	1,656.5	2,001.8
2010	199.9	103.9	229.7	1,435.5	14.2	76.3	24.4	2.1	344.5	1,741.6	2,086.1
2011	198.2	100.9	234.0	1,509.6	15.2	79.0	25.2	2.4	341.8	1,822.5	2,164.3
2012	194.6	96.9	238.2	1,581.3	15.9	81.4	25.9	2.6	336.0	1,900.9	2,236.9
2013	191.7	93.4	239.1	1,658.9	16.8	83.8	26.7	2.9	331.5	1,981.8	2,313.3
2014	189.6	90.1	242.4	1,735.8	17.6	86.3	27.5	3.1	327.8	2,064.6	2,392.4
2015	188.8	87.5	245.4	1,807.9	18.2	88.7	28.1	3.2	325.9	2,142.0	2,467.9
2016	188.9	85.6	245.4	1,877.2	18.9	91.0	28.9	3.4	325.6	2,213.6	2,539.3
2017	189.9	84.6	248.3	1,945.3	19.5	92.8	29.6	3.6	327.2	2,286.4	2,613.6
2018	191.0	82.9	252.1	2,011.2	20.0	94.8	30.2	3.7	327.8	2,358.2	2,686.0
2019	192.1	81.2	253.6	2,076.2	20.6	96.6	30.9	3.8	328.5	2,426.4	2,754.9
2020	193.2	79.4	256.7	2,143.8	21.2	98.7	31.6	4.0	329.3	2,499.2	2,828.4
2021	193.9	77.0	259.1	2,212.8	21.8	100.8	32.3	4.1	329.0	2,572.7	2,901.7
2022	195.5	75.8	260.0	2,283.1	22.2	102.5	32.8	4.2	330.5	2,645.5	2,976.1
2023	198.0	76.3	263.5	2,352.3	22.8	104.6	33.5	4.4	335.0	2,720.5	3,055.5
2024	200.8	76.8	266.7	2,421.9	23.4	106.8	34.1	4.6	339.7	2,795.3	3,135.0
2025	204.4	77.7	269.1	2,490.0	24.1	108.9	34.8	4.8	345.8	2,868.0	3,213.8
Avg Annual Growth:											
2000-08	0.2%	-0.1%	3.3%	6.8%	5.4%	2.8%	5.5%		0.6%	6.0%	4.8%
2008-10	-0.9%	-1.7%	0.4%	7.2%	5.5%	1.9%	2.3%	13.3%	-0.6%	6.0%	4.8%
2010-20	-0.3%	-2.7%	1.1%	4.1%	4.0%	2.6%	2.6%	6.7%	-0.5%	3.7%	3.1%
2008-25	0.0%	-1.9%	1.0%	4.1%	3.8%	2.3%	2.4%	6.6%	-0.1%	3.7%	3.1%

Source: FAA APO Estimates.

Note: Detail may not add to total because of independent rounding.

## Air-Ground Radiotelephone Service

The air-ground radiotelephone service includes commercial and general aviation services. Licensees may offer a wide range of telecommunications services to passengers and others on aircraft.

Commercial aviation air-ground radiotelephone service licensees operate in the 800 MHz band and can provide communication services to all aviation markets, including commercial, governmental, and private aircraft. Services include, but are not limited to, voice telephony, broadband internet access, and data. However, fixed services and ancillary land mobile services are not permitted.

General aviation air-ground radiotelephone service licensees operate in the 450 MHz band and can provide a variety of telecommunications services to private aircraft such as small single engine planes and corporate jets.

In addition to the Commission's rules governing air-ground services, Federal Aviation Administration (FAA) and aircraft operator rules and policies restrict the use of personal electronic devices (PEDs) on aircraft. The use of PEDs, which include wireless telephones, pagers, personal digital assistants, portable music players, video games and laptop computers, remains subject to FAA and aircraft operator authority over inflight safety.

<b>Air-Ground Radiotelephone Service</b>	
Air-ground service providers may offer a wide range of communications services to users on board aircraft.	
Also Known As	Air-Ground
<a href="#">Service Rules</a>	47 CFR, Part 22, Subpart G
<b>Band Plan</b>	
Band(s)	Commercial Aviation Air-Ground Stations: 849.0-850.5 / 894.0-895.5 850.5-851.0 / 895.5-896.0 General Aviation Air-Ground Stations: 454.675-454.975 / 459.675-459.975
Block Size	Commercial air-ground service: 2 nationwide licenses, 3 MHz and 1 MHz
Market Areas	Commercial air-ground service - nationwide General aviation air-ground service - by transmitter site
<b>Licensing</b>	
<a href="#">Fee and Mailing Instructions</a>	
System	<a href="#">ULS</a>
<b>ULS Radio Service Codes</b>	
CA - Commercial aviation air-ground service (incumbent)	
CG - General aviation air-ground service	
CJ - Commercial aviation air-ground service (auctioned)	

**§ 22.857 Channel plan for commercial aviation air-ground systems.**

The 849–851 and 894–896 MHz frequency ranges are allocated for block assignment to nationwide air-ground systems providing radiotelephone service to passengers aboard commercial aircraft. These frequency ranges may also be used to provide service to persons in general aviation or other aircraft.

Ground stations transmit on channels in the 849–851 MHz range. Airborne mobile stations transmit on channels in the 894–896 MHz range. Systems using these channels must conform to the channel plan described in this section.

(a) *Channel blocks.* The spectrum allocated for commercial aviation airground systems is divided into ten channel blocks, numbered 1 through 10. All ground stations in each geographical area must use the same channel block for communication with airborne mobile stations in flight, in accordance with § 22.859.

(1) Each channel block is subdivided into 6 control channels labeled P–1 through P–6, and 29 communications channels labeled C–1 through C–29.

(2) The authorized channel bandwidths are as follows:

(i) Each control channel has a bandwidth of 3.2 kHz.

(ii) Each communications channel has a bandwidth of 6 kHz.

(b) The center frequencies (in Mega-Hertz) of the communications and control channels are listed in Tables G–1 and G–2 of this section.

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**TABLE G–1.—GROUND STATION CHANNELS**

Channel block

10 9 8 7 6 5 4 3 2 1



C-1 .. 849.0055 849.2055 849.4055 849.6055 849.8055 850.0055 850.2055 850.4055  
850.6055 850.8055  
C-2 .. 849.0115 849.2115 849.4115 849.6115 849.8115 850.0115 850.2115 850.4115  
850.6115 850.8115  
C-3 .. 849.0175 849.2175 849.4175 849.6175 849.8175 850.0175 850.2175 850.4175  
850.6175 850.8175  
C-4 .. 849.0235 849.2235 849.4235 849.6235 849.8235 850.0235 850.2235 850.4235  
850.6235 850.8235  
C-5 .. 849.0295 849.2295 849.4295 849.6295 849.8295 850.0295 850.2295 850.4295  
850.6295 850.8295  
C-6 .. 849.0355 849.2355 849.4355 849.6355 849.8355 850.0355 850.2355 850.4355  
850.6355 850.8355  
C-7 .. 849.0415 849.2415 849.4415 849.6415 849.8415 850.0415 850.2415 850.4415  
850.6415 850.8415  
C-8 .. 849.0475 849.2475 849.4475 849.6475 849.8475 850.0475 850.2475 850.4475  
850.6475 850.8475  
C-9 .. 849.0535 849.2535 849.4535 849.6535 849.8535 850.0535 850.2535 850.4535  
850.6535 850.8535  
C-10 849.0595 849.2595 849.4595 849.6595 849.8595 850.0595 850.2595 850.4595  
850.6595 850.8595  
C-11 849.0655 849.2655 849.4655 849.6655 849.8655 850.0655 850.2655 850.4655  
850.6655 855.8655  
C-12 849.0715 849.2715 849.4715 849.6715 849.8715 850.0715 850.2715 850.4715  
850.6715 850.8715  
C-13 849.0775 849.2775 849.4775 849.6775 849.8775 850.0775 850.2775 850.4775  
850.6775 850.8775  
C-14 849.0835 849.2835 849.4835 849.6835 849.8835 850.0835 850.2835 850.4835  
850.6835 850.8835  
C-15 849.0895 849.2895 849.4895 849.6895 849.8895 850.0895 850.2895 850.4895  
850.6895 850.8895  
C-16 849.0955 849.2955 849.4955 849.6955 849.8955 850.0955 850.2955 850.4955  
850.6955 850.8955  
C-17 849.1015 849.3015 849.5015 849.7015 849.9015 850.1015 850.3015 850.5015  
850.7015 850.9015  
C-18 849.1075 849.3075 849.5075 849.7075 849.9075 850.1075 850.3075 850.5075  
850.7075 850.9075  
C-19 849.1135 849.3135 849.5135 849.7135 849.9135 850.1135 850.3135 850.5135  
850.7135 850.9135  
C-20 849.1195 849.3195 849.5195 849.7195 849.9195 850.1195 850.3195 850.5195  
850.7195 850.9195  
C-21 849.1255 849.3255 849.5255 849.7255 849.9255 850.1255 850.3255 850.5255  
850.7255 850.9255  
C-22 849.1315 849.3315 849.5315 849.7315 849.9315 850.1315 850.3315 850.5315  
850.7315 850.9315  
C-23 849.1375 849.3375 849.5375 849.7375 849.9375 850.1375 850.3375 850.5375  
850.7375 850.9375

C-24 849.1435 849.3435 849.5435 849.7435 849.9435 850.1435 850.3435 850.5435  
 850.7435 850.9435  
 C-25 849.1495 849.3495 849.5495 849.7495 849.9495 850.1495 850.3495 850.5495  
 850.7495 850.9495  
 C-26 849.1555 849.3555 849.5555 849.7555 849.9555 850.1555 850.3555 850.5555  
 850.7555 850.9555  
 C-27 849.1615 849.3615 849.5615 849.7615 849.9615 850.1615 850.3615 850.5615  
 850.7615 850.9615  
 C-28 849.1675 849.3675 849.5675 849.7675 849.9675 850.1675 850.3675 850.5675  
 850.7675 850.9675  
 C-29 849.1735 849.3735 849.5735 849.7735 849.9735 850.1735 850.3735 850.5735  
 850.7735 850.9735  
 P-6 .. 849.1813 849.3813 849.5813 849.7813 849.9813 850.1813 850.3813 850.5813  
 850.7813 850.9813  
 P-5 .. 849.1845 849.3845 849.5845 849.7845 849.9845 850.1845 850.3845 850.5845  
 850.7845 850.9845  
 P-4 .. 849.1877 849.3877 849.5877 849.7877 849.9877 850.1877 850.3877 850.5877  
 850.7877 850.9877  
 P-3 .. 849.1909 849.3909 849.5909 849.7909 849.9909 850.1909 850.3909 850.5909  
 850.7909 850.9909  
 P-2 .. 849.1941 849.3941 849.5941 849.7941 849.9941 850.1941 850.3941 850.5941  
 850.7941 850.9941  
 P-1 .. 849.1973 849.3973 849.5973 849.7973 849.9973 850.1973 850.3973 850.5973  
 850.7973 850.9973

# TABLE G-2.—AIRBORNE MOBILE STATION CHANNELS

Channel block

10 9 8 7 6 5 4 3 2 1

C-1 .. 894.0055 894.2055 894.4055 894.6055 894.8055 895.0055 895.2055 895.4055  
 895.6055 895.8055  
 C-2 .. 894.0115 894.2115 894.4115 894.6115 894.8115 895.0115 895.2115 895.4115  
 895.6115 895.8115  
 C-3 .. 894.0175 894.2175 894.4175 894.6175 894.8175 895.0175 895.2175 895.4175  
 895.6175 895.8175  
 C-4 .. 894.0235 894.2235 894.4235 894.6235 894.8235 895.0235 895.2235 895.4235  
 895.6235 895.8235  
 C-5 .. 894.0295 894.2295 894.4295 894.6295 894.8295 895.0295 895.2295 895.4295  
 895.6295 895.8295  
 C-6 .. 894.0355 894.2355 894.4355 894.6355 894.8355 895.0355 895.2355 895.4355  
 895.6355 895.8355  
 C-7 .. 894.0415 894.2415 894.4415 894.6415 894.8415 895.0415 895.2415 895.4415  
 895.6415 895.8415  
 C-8 .. 894.0475 894.2475 894.4475 894.6475 894.8475 895.0475 895.2475 895.4475  
 895.6475 895.8475  
 C-9 .. 894.0535 894.2535 894.4535 894.6535 894.8535 895.0535 895.2535 895.4535  
 895.6535 895.8535



C-10 894.0595 894.2595 894.4595 894.6595 894.8595 895.0595 895.2595 895.4595  
 895.6595 895.8595  
 C-11 894.0655 894.2655 894.4655 894.6655 894.8655 895.0655 895.2655 895.4655  
 895.6655 895.8655  
 C-12 894.0715 894.2715 894.4715 894.6715 894.8715 895.0715 895.2715 895.4715  
 895.6715 895.8715  
 C-13 894.0775 894.2775 894.4775 894.6775 894.8775 895.0775 895.2775 895.4775  
 895.6775 895.8775  
 C-14 894.0835 894.2835 894.4835 894.6835 894.8835 895.0835 895.2835 895.4835  
 895.6835 895.8835  
 C-15 894.0895 894.2895 894.4895 894.6895 894.8895 895.0895 895.2895 895.4895  
 895.6895 895.8895  
 C-16 894.0955 894.2955 894.4955 894.6955 894.8955 895.0955 895.2955 895.4955  
 895.6955 895.8955  
 C-17 894.1015 894.3015 894.5015 894.7015 894.9015 895.1015 895.3015 895.5015  
 895.7015 895.9015  
 C-18 894.1075 894.3075 894.5075 894.7075 894.9075 895.1075 895.3075 895.5075  
 895.7075 895.9075  
 C-19 894.1135 894.3135 894.5135 894.7135 894.9135 895.1135 895.3135 895.5135  
 895.7135 895.9135  
 C-20 894.1195 894.3195 894.5195 894.7195 894.9195 895.1195 895.3195 895.5195  
 895.7195 895.9195  
 C-21 894.1255 894.3255 894.5255 894.7255 894.9255 895.1255 895.3255 895.5255  
 895.7255 895.9255  
 C-22 894.1315 894.3315 894.5315 894.7315 894.9315 895.1315 895.3315 895.5315  
 895.7315 895.9315  
 C-23 894.1375 894.3375 894.5375 894.7375 894.9375 895.1375 895.3375 895.5375  
 895.7375 895.9375  
 C-24 894.1435 894.3435 894.5435 894.7435 894.9435 895.1435 895.3435 895.5435  
 895.7435 895.9435  
 C-25 894.1495 894.3495 894.5495 894.7495 894.9495 895.1495 895.3495 895.5495  
 895.7495 895.9495  
 C-26 894.1555 894.3555 894.5555 894.7555 894.9555 895.1555 895.3555 895.5555  
 895.7555 895.9555  
 C-27 894.1615 894.3615 894.5615 894.7615 894.9615 895.1615 895.3615 895.5615  
 895.7615 895.9615  
 C-28 894.1675 894.3675 894.5675 894.7675 894.9675 895.1675 895.3675 895.5675  
 895.7675 895.9675

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TABLE G-2.—AIRBORNE MOBILE STATION CHANNELS—Continued

Channel block

10 9 8 7 6 5 4 3 2 1

C-29 894.1735 894.3735 894.5735 894.7735 894.9735 895.1735 895.3735 895.5735  
 895.7735 895.9735



P-6 .. 894.1813 894.3813 894.5813 894.7813 894.9813 895.1813 895.3813 895.5813  
895.7813 895.9813

P-5 .. 894.1845 894.3845 894.5845 894.7845 894.9845 895.1845 895.3845 895.5845  
895.7845 895.9845

P-4 .. 894.1877 894.3877 894.5877 894.7877 894.9877 895.1877 895.3877 895.5877  
895.7877 895.9877

P-3 .. 894.1909 894.3909 894.5909 894.7909 894.9909 895.1909 895.3909 895.5909  
895.7909 895.9909

P-2 .. 894.1941 894.3941 894.5941 894.7941 894.9941 895.1941 895.3941 895.5941  
895.7941 895.9941

P-1 .. 894.1973 894.3973 894.5973 894.7973 894.9973 895.1973 895.3973 895.5973  
895.7973 895.9973

**§ 22.859 Geographical channel block layout.**

Except as provided in paragraphs (a) and (b) of this section, ground station locations must be within 1.61 kilometers (one mile) of the locations listed in this paragraph. The channel block allotted for each location must be used to provide service to airborne mobile stations in flight and may be used to provide service to airborne mobile stations on ground.

Location N. latitude W. longitude

Channel

block

Alaska:

Anchorage ..... 61°11'06"<sup>2</sup>  
149°54'42"<sup>2</sup> 8

Cordova ..... 60°33'00"<sup>2</sup>  
145°43'00"<sup>2</sup> 5

Ketchikan ..... 55°21'20"<sup>2</sup>  
131°42'33"<sup>2</sup> 5

Juneau ..... 58°21'18"<sup>2</sup>  
134°34'30"<sup>2</sup> 4

Sitka ..... 57°03'30"<sup>2</sup>  
135°22'01"<sup>2</sup> 7

Yakutat ..... 59°30'30"<sup>2</sup>  
142°30'00"<sup>2</sup> 8

Alabama: Birmingham .....  
33°23'24"<sup>2</sup> 86°39'59"<sup>2</sup> 2

Arizona:

Phoenix ..... 33°35'39"<sup>2</sup>  
112°05'12"<sup>2</sup> 4

Winslow .....	35°01'41.72"
110°43'02.6"	
Arkansas: Pine Bluff .....	
34°10'56.2" 91°56'18.2" 8	
California:	
Blythe .....	33°36'39.2"
114°42'24.10"	
Eureka .....	40°42'59.2"
124°12'09.2" 8	
Los Angeles .....	33°56'45.2"
118°23'03.2" 4	
Oakland .....	37°51'12.2"
122°12'30.1"	
San Francisco .....	37°41'15.2"
122°26'01.2" 6	
Visalia .....	36°19'36.2"
119°23'22.2" 7	
Colorado:	
Colorado Springs .....	38°44'39.2"
104°51'46.2" 8	
Denver .....	39°46'45.2"
104°50'49.2" 1	
Hayden .....	40°29'04.2"
107°13'08.2" 6	
Florida:	
Miami .....	25°48'27.2"
80°16'30.2" 4	
Orlando .....	28°26'53.2"
81°22'00.2" 2	
Tallahassee .....	30°24'02.2"
84°21'18.2" 7	
Georgia:	
Atlanta .....	33°39'05.2"
84°25'54.2" 5	
St. Simon Island .....	31°09'22.2"
81°23'14.2" 6	
Hawaii: Mauna Kapu .....	
21°24'24.2" 158°06'02.2" 5	
Idaho:	
Blackfoot .....	43°11'34.2"
112°20'57.2" 8	
Caldwell .....	43°38'45.2"
116°38'44.2" 10	
Illinois:	
Chicago .....	41°46'49.2"
87°45'20.2" 3	

Kewanee ..... 41°12'05"  
 89°57'33" 5  
 Schiller Park ..... 41°57'18"  
 87°52'57" 2  
 Indiana: Fort Wayne .....  
 40°59'16" 85°11'31" 7  
 Iowa: Des Moines .....  
 41°31'58" 93°38'54" 1  
 Kansas:  
 Garden City ..... 37°59'35"  
 100°54'04" 3  
 Wichita ..... 37°37'24"  
 97°27'15" 7  
 Kentucky: Fairdale .....  
 38°04'48" 85°47'33" 6  
 Louisiana:  
 Kenner ..... 30°00'44"  
 90°13'30" 3  
 Shreveport ..... 32°27'09"  
 93°49'38" 5  
 Massachusetts: Boston .....  
 42°23'15" 71°01'03" 7  
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Location N. latitude W. longitude

Channel

block

Michigan:

Bellville ..... 42°12'17"

83°29'09" 8

Flint ..... 42°58'21"

83°44'22" 9

Sault Saint Marie ..... 46°28'45"

84°21'31" 6

Minnesota: Bloomington .....  
 44°51'30" 93°13'19" 9

Mississippi: Meridian .....  
 32°19'10" 88°41'33" 9

Missouri:

Kansas City ..... 30°18'37"

94°41'07" 6

St Louis ..... 38°42'45"

90°19'19" 4

Springfield ..... 37°14'28"

93°22'54" 9

Montana:



Lewistown .....	47°02¢56 <sup>2</sup>
109°27¢27 <sup>2</sup> 5	
Miles City .....	46°25¢30 <sup>2</sup>
105°52¢30 <sup>2</sup> 8	
Missoula .....	47°01¢05 <sup>2</sup>
114°00¢41 <sup>2</sup> 3	
Nebraska:	
Grand Island .....	40°58¢00 <sup>2</sup>
98°19¢11 <sup>2</sup> 2	
Ogallala .....	41°07¢11 <sup>2</sup>
101°45¢37 <sup>2</sup> 4	
Nevada:	
Las Vegas .....	36°05¢35 <sup>2</sup>
115°10¢25 <sup>2</sup> 1	
Reno .....	39°25¢13 <sup>2</sup>
119°55¢52 <sup>2</sup> 3	
Tonopah .....	38°03¢43 <sup>2</sup>
117°13¢24 <sup>2</sup> 9	
Winnemucca .....	41°00¢39 <sup>2</sup>
117°45¢58 <sup>2</sup> 4	
New Mexico:	
Alamogordo .....	32°54¢46 <sup>2</sup>
105°56¢41 <sup>2</sup> 8	
Albuquerque .....	35°03¢05 <sup>2</sup>
106°37¢13 <sup>2</sup> 10	
Aztec .....	36°48¢42 <sup>2</sup>
107°53¢48 <sup>2</sup> 9	
Clayton .....	36°27¢29 <sup>2</sup>
103°11¢16 <sup>2</sup> 5	
New Jersey: Woodbury .....	
39°50¢01 <sup>2</sup> 75°09¢21 <sup>2</sup> 3	
New York:	
E. Elmhurst .....	40°46¢21 <sup>2</sup>
73°52¢42 <sup>2</sup> 1	
Schuyler .....	43°09¢09 <sup>2</sup>
75°07¢50 <sup>2</sup> 2	
Staten Island .....	40°36¢05 <sup>2</sup>
74°06¢35 <sup>2</sup> 9	
North Carolina:	
Greensboro .....	36°05¢54 <sup>2</sup>
70°56¢42 <sup>2</sup> 9	
Wilmington .....	34°16¢10 <sup>2</sup>
77°54¢24 <sup>2</sup> 3	
North Dakota: Dickinson .....	
46°51¢05 <sup>2</sup> 102°47¢35 <sup>2</sup> 7	

Ohio: Pataskala .....  
 40°04¢38<sup>2</sup> 82°41¢57<sup>2</sup> 1  
 Oklahoma:  
 Warner ..... 35°29¢31<sup>2</sup>  
 95°18¢25<sup>2</sup> 4  
 Woodward ..... 36°24¢42<sup>2</sup>  
 99°28¢50<sup>2</sup> 9  
 Oregon:  
 Albany ..... 44°38¢24<sup>2</sup>  
 123°03¢36<sup>2</sup> 5  
 Klamath Falls ..... 42°06¢30<sup>2</sup>  
 121°38¢00<sup>2</sup> 2  
 Pendleton ..... 45°35¢45<sup>2</sup>  
 118°31¢02<sup>2</sup> 7  
 Pennsylvania:  
 Coraopolis ..... 40°30¢33<sup>2</sup>  
 80°13¢27<sup>2</sup> 4  
 New Cumberland ..... 40°11¢30<sup>2</sup>  
 76°52¢02<sup>2</sup> 8  
 South Carolina: Charleston .....  
 32°54¢10<sup>2</sup> 80°01¢20<sup>2</sup> 4  
 South Dakota:  
 Aberdeen ..... 45°27¢21<sup>2</sup>  
 98°25¢26<sup>2</sup> 6  
 Rapid City ..... 44°02¢36<sup>2</sup>  
 103°03¢36<sup>2</sup> 5  
 Tennessee:  
 Elizabethton ..... 36°26¢04<sup>2</sup>  
 82°08¢06<sup>2</sup> 7  
 Memphis ..... 35°01¢44<sup>2</sup>  
 89°56¢15<sup>2</sup> 10  
 Nashville ..... 36°08¢44<sup>2</sup>  
 86°41¢31<sup>2</sup> 3  
 Texas:  
 Austin ..... 30°16¢37<sup>2</sup>  
 97°49¢34<sup>2</sup> 2  
 Bedford ..... 32°50¢19<sup>2</sup>  
 97°08¢03<sup>2</sup> 1  
 Houston ..... 29°54¢37<sup>2</sup>  
 95°24¢39<sup>2</sup> 9  
 Lubbock ..... 33°37¢06<sup>2</sup>  
 101°52¢14<sup>2</sup> 7  
 Monahans ..... 31°34¢58<sup>2</sup>  
 102°54¢18<sup>2</sup> 6  
 Utah:

Abajo Peak .....	37°50¢21 <sup>2</sup>
109°27¢42 <sup>2</sup> 7	
Delta .....	39°23¢15 <sup>2</sup>
112°30¢44 <sup>2</sup> 2	
Escalante .....	37°45¢19 <sup>2</sup>
111°52¢27 <sup>2</sup> 5	
Green River .....	38°57¢54 <sup>2</sup>
110°13¢40 <sup>2</sup> 3	
Salt Lake City .....	40°39¢11 <sup>2</sup>
112°12¢06 <sup>2</sup> 1	
Virginia: Arlington .....	
38°52¢55 <sup>2</sup> 77°06¢18 <sup>2</sup> 6	
Washington:	
Seattle .....	47°26¢08 <sup>2</sup>
122°17¢35 <sup>2</sup> 4	
Cheney .....	47°33¢14 <sup>2</sup>
117°43¢35 <sup>2</sup> 1	
West Virginia: Charleston .....	
38°19¢47 <sup>2</sup> 81°39¢36 <sup>2</sup> 2	

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Location N. latitude W. longitude

Channel

block

Wisconsin: Stevens Point .....

44°33¢06<sup>2</sup> 89°25¢27<sup>2</sup> 8

Wyoming: Riverton .....

43°03¢37<sup>2</sup> 108°27¢23<sup>2</sup> 9

(a) Carriers authorized to construct and operate air-ground radiotelephone systems on the channels listed in § 22.857 may also construct and operate low power ground stations designed to provide service to airborne mobile stations on the ground, provided that no interference is caused to service provided by ground stations located in accordance with the geographical channel block layout or with paragraph (b) of this section. The antenna location of each such low power ground station may be anywhere that is at least 483 kilometers (300 miles) from all antenna locations of ground stations using the same channel block(s) in accordance with the geographical channel block



layout or with paragraph (b) of this section.

(b) Ground station locations may be more than 1.61 kilometers (one mile) from all of the locations listed in this section, provided that they are at least 885 kilometers (550 miles) from all antenna locations of ground stations using the same channel block(s) in accordance with the geographical channel block layout or with this paragraph.

**§ 22.861 Emission limitations.**

Any appropriate emission type may be used to provide air-ground radiotelephone service on the channels listed in § 22.857, provided that the emission limitations of this section are met.

(a) *Emission mask.* The emission mask described in this paragraph applies instead of those in § 22.359. The power of any emission in each of the adjacent channels must be at least 30 dB below the power of the total emission. The power of any emission in any of the channels other than the one being used and the adjacent channels must be at least 50 dB below the power of the total emission.

(b) *Airborne mobile transmitters.* The power of any emission in each of the adjacent channels must not exceed -130 dBm at any ground station receiver, assuming a 0 dBi receive antenna. The power of any emission in any of the channels other than the one being used and the adjacent channels must not exceed -148 dBm at any ground station receiver, assuming a 0 dBi receive antenna.

(c) *Ground station transmitters.* The effective radiated power (ERP) of any emission outside of the frequency ranges set forth in § 22.857 must not exceed -10 dBm. The ERP of any emission in each of the adjacent channels must not exceed +10 dBm. The ERP of any

emission in any of the channels other than the one being used and the adjacent channels must not exceed -5 dBm.

(d) If an emission on any frequency outside of the authorized bandwidth causes harmful interference, the FCC may require greater attenuation of that emission than required in paragraph (a) of this section.

**§ 22.863 Transmitter frequency tolerance.**

Ground station transmitter frequencies must be maintained within 0.1 parts per million (ppm) of the channel reference or center frequencies. Doppler shift correction must be used to ensure that the frequencies of the signals of airborne mobile stations received at ground stations remain within 0.2 ppm of the channel reference or center frequencies.

**§ 22.865 Automatic channel selection procedures.**

Operation of stations using the channels listed in § 22.857 must be in accordance with the procedures in this section.

(a) A communications channel is not available for use by a ground station if it is already in use by another ground station at the same location. Ground station equipment must automatically determine whether channels are in use by other ground stations at the same

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location, and may employ radio frequency signal monitoring to do so. For example, a communications channel may be determined to be in use if the received signal power on that channel at the ground station exceeds -115 dBm, which, assuming a 0 dB gain 895 MHz receive antenna, corresponds to a field strength of approximately 19 dBmV/m. Ground stations may employ an alternative method of determining whether a communications channel is in use provided that such procedure is

at least as reliable as radio frequency signal monitoring.

(b) Data indicating which communications channels are available for use are transmitted by ground stations on the assigned control channels.

(c) A call is originated when an airborne mobile station selects a communications channel based on the received data from ground stations and other factors, and transmits an identification code (which identifies the specific ground station from which service is requested) on the selected communications channel. The ground station from which service has been requested may then obtain any necessary billing information and complete the call.

(d) A ground station may not transmit on a communications channel unless it has received the proper identification code. After a ground station has begun to transmit on a communications channel, that channel is not available to ground stations other than the one from which service has been requested until the call is terminated.

(e) A call is terminated by the ground station when either a hang-up signal is transmitted by the airborne mobile station, or the signal from the airborne mobile station on the communications channel is lost for a period of 15 continuous seconds. The hang-up signal is the on-off keying (50% duty cycle) of an unmodulated carrier over a period of one second with pulse duration of 5 milliseconds. However, if all carriers authorized to operate air-ground systems using the channels listed in § 22.857 agree that an alternative hangup signal and/or procedure would be more efficient or beneficial, such alternative hang-up signal and/or procedure may be used. The carriers must jointly give prior notification to the FCC if an



alternative hang-up signal and/or procedure is used.

**§ 22.867 Effective radiated power limits.**

The effective radiated power (ERP) of ground and airborne stations operating on the channels listed in § 22.857 must not exceed the limits in this section.

(a) The ERP of airborne mobile station transmitters must not exceed 30 Watts.

(b) The ERP of ground station transmitters must not exceed 100 Watts.

(c) The ERP of low power ground station transmitters operating pursuant to paragraph (a) of § 22.859 must not exceed 1 Watt.

**§ 22.869 Assignment of control channels.**

The FCC selects and assigns exclusively one control channel to each commercial aviation air-ground licensee.

**§ 22.871 Control channel transition period.**

The rules in this section provide for a period of transition during which the experimental air-ground system operating on the channels listed in § 22.857 will be discontinued and replaced by a system operating in full compliance with the rules in this subpart. The experimental system may continue to exclusively use a 3.2 kHz control channel contained within the bandwidth of communications channel C-2 of each channel block until September 9, 1996. After that date communications channel C-2 will be available for use by all carriers authorized to operate an airground system on the channels listed in § 22.857.

**§ 22.873 Construction period for commercial aviation air-ground systems.**

Construction of a new commercial aviation air-ground system is considered to be completed for the purpose of this section and § 22.142 when the number of ground stations specified in this section are constructed and operational.

(a) *Stage I.* At least 25 ground stations must be constructed and operational within 3 years. Licensees must  
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notify the FCC (FCC Form 489) as soon as this requirement is met. Service to subscribers may commence as soon as the notification is mailed. If service to subscribers is not commenced at that time, the notification must contain a statement to this effect.

(b) *Stage II.* At least 50 ground stations must be constructed and operational within 5 years. Nationwide service to subscribers must commence within 5 years. Licensees must notify the FCC (FCC Form 489) as soon as these requirements are met.

**§ 22.875 Commercial aviation airground system application requirements.**

Existing and prospective common carriers may file applications for authority to construct and operate a new nationwide air-ground system on the channels listed in § 22.857 only during window filing periods that may be announced by the FCC in Public Notices.

In addition to the requirements elsewhere in this part, such applications must contain the following exhibits:

(a) *Written agreement.* A signed agreement between the applicant and at least one airline or airline organization, authorizing the applicant to provide air-ground service on its aircraft.

(b) *Financial qualifications.* At the time of filing its application an applicant must demonstrate that it has either a firm financial commitment or available financial resources necessary to construct 50 ground stations and operate for one year after initiation of nationwide air-ground service its proposed air-ground system.

(1) The demonstration of commitment

must include and be sufficient to cover the realistic and prudent estimated costs of construction of 50 ground stations, operation and other initial expenses for one year after initiation of nationwide air-ground service.

The estimated costs, operation costs and other initial expenses must be itemized. The estimated costs must include the anticipated costs of construction of each ground station.

(2) The firm financial commitment required above must be obtained from a state or federally chartered bank or savings and loan association, or the financial affiliate or subsidiary of an equipment supplier, and must contain a statement that the lender:

(i) Has examined the financial condition of the applicant including audited financial statements, and has determined that the applicant is credit worthy;

(ii) That the lender is committed to providing a sum certain to the particular applicant;

(iii) That the lender's willingness to enter into the commitment is based solely on its relationship with the applicant; and

(iv) That the commitment is not in any way guaranteed by any entity other than the applicant.

(3) Applicants intending to rely on personal or internal resources must submit:

(i) Audited financial statements certified within one year of the date of the application, indicating the availability of sufficient net liquid assets to construct and operate the proposed airground system for one year.

(A) The auditors must be certified public accountants.

(B) Net liquid assets is considered to be the excess of current assets (readily converted to cash) over current liabilities.



In order to demonstrate ready convertibility into cash, the identity, liquidity and value of listed assets must be demonstrated. Non-liquid assets can be relied on if the marketability of those assets is documented.

(ii) An audited balance sheet, current within 60 days of filing, which clearly shows the continued availability of sufficient net liquid assets to construct and operate the proposed air-ground system for one year after nationwide service begins.

(c) *Service Plan.* A service plan containing:

(1) A map or other description of the planned geographic coverage area, including air space over the continental United States, Alaska, Hawaii and other United States territories.

(2) A schedule for construction of 50 ground stations and provision of nationwide service to subscribers within 5 years from the grant of the initial authorization.

(3) A description of how the system will interconnect with the landline telephone network and be integrated

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with other air-ground systems, including a statement as to whether the system will be interconnected with international air-ground systems.

(d) *Technical Exhibit.* A technical description of the proposed system demonstrating compliance with all applicable technical requirements and describing how the proposed system would operate, if authorized. This exhibit must provide the following information:

(1) The number of ground stations to be used, their locations, and the type and quantity of equipment proposed for the system;

(2) A complete description of the procedures and data protocols to be used on the control channel;

- (3) The modulation types to be used and their spectral characteristics;
- (4) The effective radiated power and transmitter peak envelope power for all transmitters at each ground station location, and the effective radiated power of the airborne mobile stations;
- (5) Antenna information as follows:
  - (i) For airborne mobile stations, the antenna type(s) to be used;
  - (ii) For ground stations, vertical and horizontal radiation patterns, antenna heights above ground level, antenna support structure heights above ground level, ground elevation above mean sea level and any relevant information (e.g. FAA approval) that may be helpful in determining whether ground station antennas require marking and lighting;
- (6) Analytical data, including calculations, of potential interference within and without the spectrum for the air-ground system;
- (7) A statement in compliance with the National Environmental Policy Act of 1969. See §§ 1.1301 through 1.1319 of this chapter.

#### **Subpart H—Cellular Radiotelephone Service**

##### **§ 22.900 Scope.**

The rules in this subpart govern the licensing and operation of cellular radiotelephone systems. Licensing and operation of these systems are also subject to rules elsewhere in this part that apply generally to the Public Mobile Services. In case of conflict, however, the rules in this subpart govern.

##### **§ 22.901 Cellular service requirements and limitations.**

Cellular system licensees must provide cellular mobile radiotelephone service upon request to all cellular subscribers in good standing, including roamers, while such subscribers are located

within any portion of the authorized cellular geographic service area (see § 22.911) where facilities have been constructed and mobile service to subscribers has commenced. A cellular system licensee may refuse or terminate service, however, subject to any applicable state or local requirements for timely notification to any subscriber who operates a cellular telephone in an airborne aircraft in violation of § 22.925 or otherwise fails to cooperate with the licensee in exercising operational control over mobile stations pursuant to § 22.927.

(a) *Service area information.* Licensees must inform prospective subscribers of the area in which reliable service can be expected.

(b) *Lack of capacity.* If a licensee refuses a request for cellular service because of a lack of system capacity, it must report that fact to the FCC in writing, explaining how it plans to increase capacity.

(c) *Dispatch service.* Cellular systems may provide dispatch service.

(d) *Alternative technologies and co-primary services.* Licensees of cellular systems may use alternative cellular technologies and/or provide fixed services on a co-primary basis with their mobile offerings, including personal communications services (as defined in Part 24 of this chapter) on the spectrum within their assigned channel block. Cellular carriers that provide mobile services must make such service available to subscribers whose mobile equipment conforms to the cellular system compatibility specification (see § 22.933).

(1) Licensees must perform or obtain an engineering analysis to ensure that interference to the service of other cellular systems will not result from the implementation of co-primary fixed



services or alternative cellular technologies.

(2) Alternative technology and co-primary fixed services are exempt from the channeling requirements of § 22.905, the modulation requirements of § 22.915, 190

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